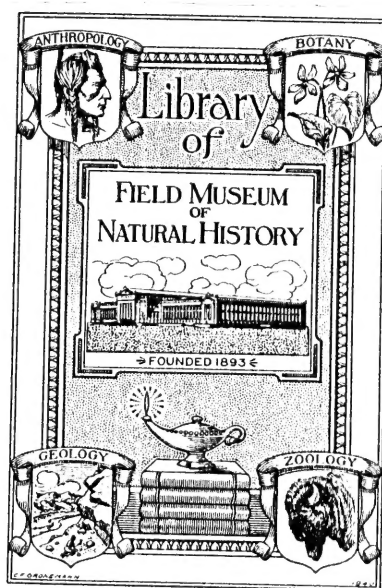


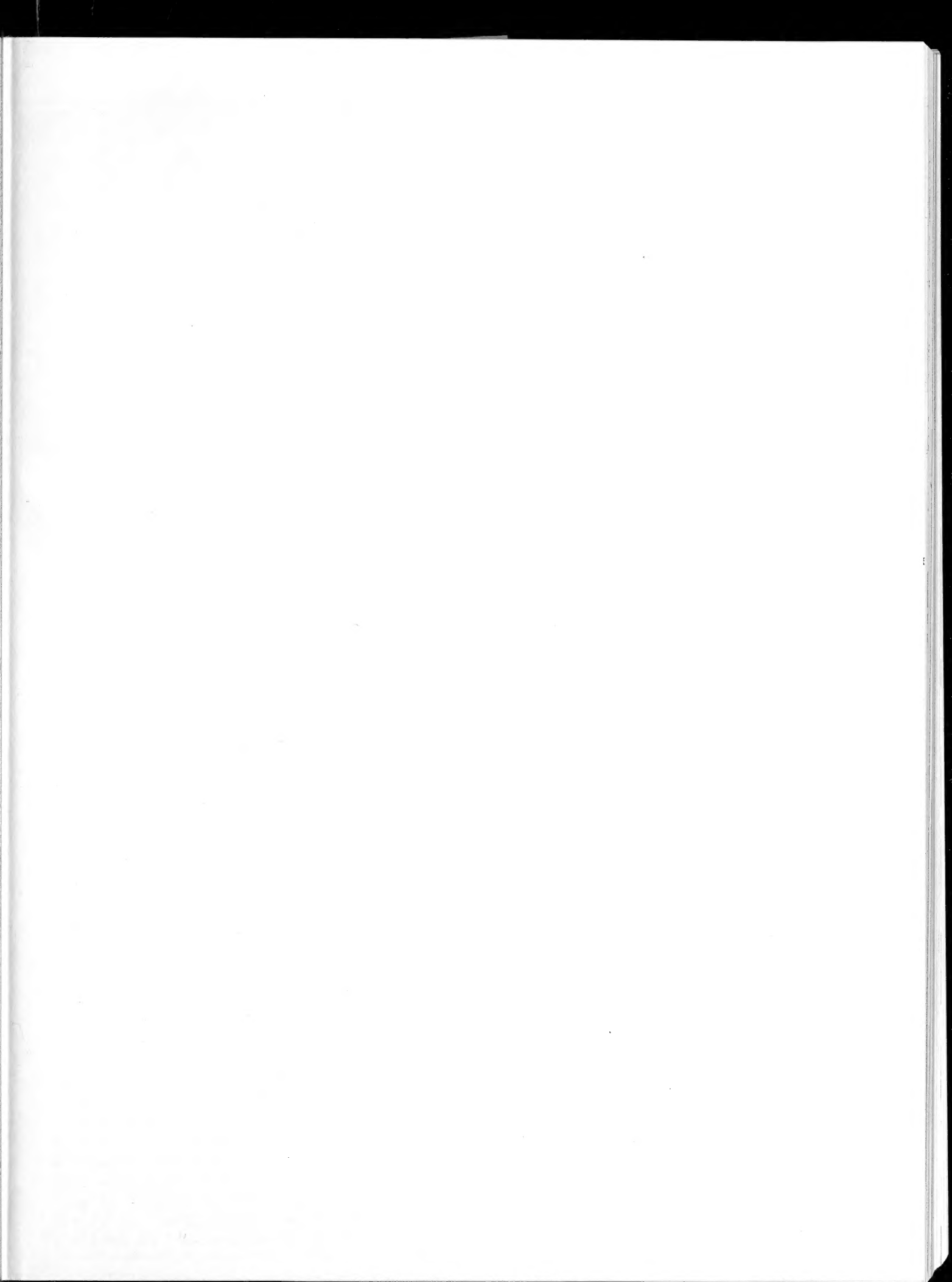
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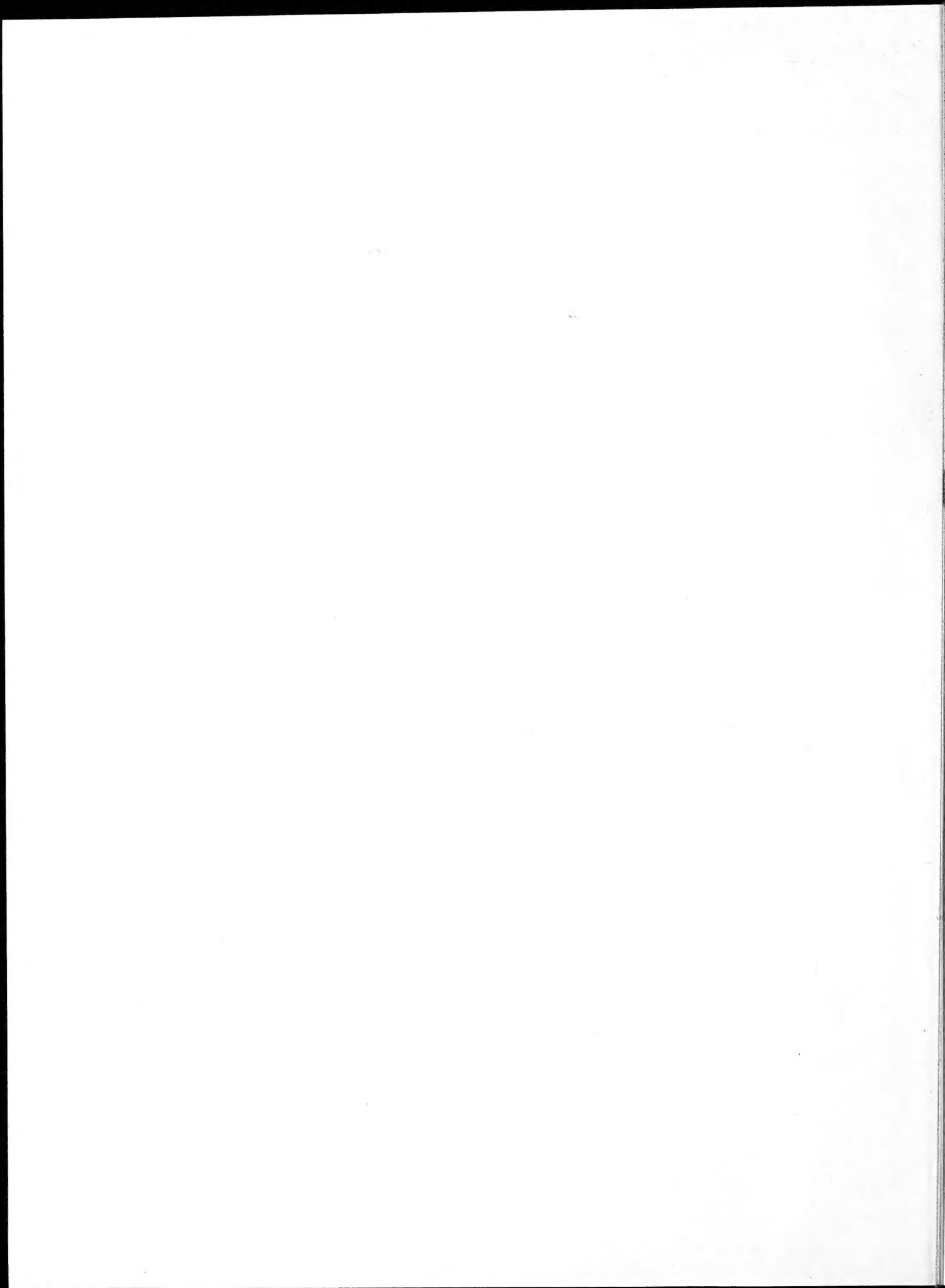


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# CONCHOLOGISTS OF AMERICA BULLETIN

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## NUMBER 25

### Highlights Of The Ninth Annual Convention

Convention Photos By R. Goldberg

Approximately 100 collectors gathered in San Francisco, CA., on September 2, 1981 for the Ninth Annual Conchologists of America Convention. The four day convention was held at the Miyako Hotel, in the Japan Center. C.O.A. members from around the country, and as far away as Mexico attended. The convention was hosted by the Northern California Malacozoological Club, who did a fantastic job in making it a fun-filled four days.

Slide presentations, field trips, a shell auction, shell book give-aways, Dealer's Bourse, and Banquet were just some of the events. Many slide presentations were given during each morning session including, Shelling in the Philippines by Joel Greene, Exotic and Rare Land Shells by Richard Goldberg, an underwater diving film by Martin Lerner, Seashells of the Pacific Northwest, by James Russell White, Jr., Rare Shells by Phil Clover, Shell Collecting in Panama, by Carol Skuglund, Scuba Diving in the Caribbean by Martin Lerner, Shelling in Puerto Rico by Richard Goldberg,

and two slide/tape presentations by Jean Caton on Rare Shells, and Dredging for Shells by Forrest & Leroy Poorman, from the Of Sea & Shore slide series. On Thursday morning, early risers got a preview of "Focus on Conchology," a television show produced by Richard Goldberg, and included interviews with notable malacologists and conchologists such as Peter Dance, R. Tucker Abbott, A.J. (Tony) Gabelish, William Old, Dr. William Clench, and others.

Since shell collecting is banned in California, field trips were to the California Academy of Sciences, and to Marine World Africa/USA. At the Academy, Dr. Barry Roth of the Dept. Invertebrate Zoology, and Dr. Peter Rhodda showed the Department's wet (preserved mollusk) collection, as well as the dry and fossil collection. The trip to Marine World included viewing the McGill Memorial Shell Collection and free time to see the attractions. On Thursday evening and Saturday afternoon the Dealer's Bourse



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## CONCHOLOGISTS OF AMERICA, INC.

**A Collective Devotion To  
Advancing-  
Conchology.**

In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed -- for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

### OFFICERS

**PRESIDENT:** Ruth Greenberg; 22762 Pacific Coast Hwy., Malibu, California, 90265  
**VICE-PRES.:** Bernard Pipher; 1116 N Street; Tekamah, Nebraska, 68061  
**SECRETARY:** Jay Tripp; 212 Connecting Road; Pittsburgh, Pennsylvania, 15228  
**TREASURER:** Clair Stahl; 3235 N.E. 61st Ave., Portland, Oregon, 97213

### BULLETIN STAFF

**EDITOR:** Richard Goldberg

**ART DIRECTOR/DESIGNER:** Marc Goldberg

The BULLETIN is an official publication of the CONCHOLOGISTS OF AMERICA, INC., published quarterly in March, June, September, and December. We invite you to submit any shell related items for inclusion in the BULLETIN. Address all BULLETIN correspondence to the EDITOR, 49-77 Fresh Meadow Lane, Flushing, New York, 11365.

### MEMBERSHIP DUES

**INDIVIDUAL**(per year) \$5.00; **FAMILY**(receives one Bulletin) \$7.00; **OVERSEAS**(Air Mail Postage) \$10.00; Send check or money order to the **TREASURER**(address above); \*\*\*Any other membership problems should be addressed to the **MEMBERSHIP CHAIRPERSON**, Phyllis Pipher, 1116 'N' St., Tekamah, Nebraska, 68061.

## EDITORIAL

—Each year that I attend the C.O.A. convention, I become more convinced that they are the shelling highlight of the year. I enjoyed meeting many of you in San Francisco, and look forward to seeing many of you at future conventions.

This editorial will also be my last as editor of the Bulletin. Due to professional commitments and nurturing my career in the television industry, I can no longer devote the amount of time needed to produce the issues. I gave up the editorship with great reluctance, but in the interest of the membership to make sure that each issue arrives in a reasonable amount of time.

I am happy to announce that my suc-

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## PRESIDENT'S MESSAGE

It is indeed an honor and a privilege to serve as president of Conchologists of America this coming year. I know you all are committed, as I am, to the aims of the organization. We will continue to work together to promote interest in conchology, exchange information, and encourage proper collecting and preservation of shells, both in displays and in natural habitats.

Our organization continues to grow as more collectors become aware of us through this excellent Bulletin, C.O.A. awards presented at shell shows internationally, and many articles in shell publications and local newspapers. As we gain more members, we gain the ability to support more worthwhile projects. We gather together once a year at our annual convention, and they get bigger and better every year. I enjoyed meeting many of you in San Francisco and look forward to seeing everyone at our next convention. Let's work for a record breaking convention in 1982 -- our decade year!

Happy Shelling,  
Ruth Greenberg



Ruth Greenberg, new president of Conchologists of America. Photo by Richard N. Levine, Santa Monica Evening Outlook -- appeared September 17, 1981 with article on conchology and the C.O.A.





## SPEAKING OF SHELLS

by Bob Janowsky

### *Cypraea porteri* Cate, 1966

I must confess that I have had a deep-seated dislike for this rather attractive and extremely rare species for several years. I was never really sure why until recently while preparing a slide presentation on rare *Cypraea*, and came across a slide of a particular specimen of *Cypraea porteri*, having one of those all too familiar moments of revelation:

One morning several years ago our telephone rang at about one o'clock. Since I am a perfect gentleman about such matters, I awakened my wife Dorothy, and allowed her to take the call. She was gone for a few minutes, during which time I managed to fall asleep. She returned and I half awoke when she said that she had just bought a *Cypraea porteri*. I mumbled some suitable acknowledgment, such as, "That's nice dear," and went back to sleep -- for about two minutes. By the time my realization of what she had said sank into my dormant brain, she was sound asleep, and I was left to spend a restless night mulling the whole thing over.

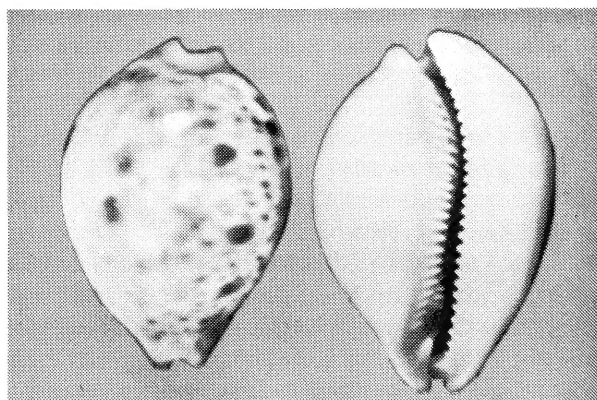
I awakened her at a decent hour (5:00 a.m. is, after all, as decent as any other hour that I can think of) and reviewed the happenings of several hours before. The telephone call was from the secretary of one of our regular suppliers from Taiwan. He was calling to let us know that a specimen of *Cypraea porteri* had just been collected by a fishing trawler and that he could get it for us if we wanted it. I like to think that he had forgotten that there is a time difference of almost twelve hours between Brooklyn and Kaohsiung, but I more suspect that he was anxious to be the first one to make a sizable profit on the shell. Needless to say, we wanted the shell and that morning cabled to confirm our interest. Alas, the story does not have a happy ending -- the specimen arrived a few days later and proved imperfect, with an obvious growth scar above one margin.

I must admit that I was quite tempted to purchase the shell despite the flaw, but from both an economic and aesthetic

point of view I have never been able to recommend a shell that is imperfect to so great a degree, and I returned it to Taiwan.

Several months later a fellow shell dealer was visiting us and he proudly displayed his newly acquired specimen of *Cypraea porteri*. I could not repress my laughter when I saw the scar above its margin. I just wonder if my confrere lost a night's sleep over it too.

*Cypraea porteri* was described by Crawford N. Cate in 1966 in *THE VELIGER*, 8(3):200-201, from a single specimen collected in 48 feet of water at the entrance to a coral cave off Manubal Island (part of the Tapul Group), just south of Capac and Siasi Islands in the Sulu Archipelago, Philippines. The specimen measures 47.0mm in length, 34.7mm in width, and 25.3 in maximum height.



*Cypraea porteri* Cate, 1966 - trawled in 200 meters of water off Ilan, Taiwan. Photo by Bob Janowsky.

In 1970 Phil Clover came across a shell somewhat similar to *Cypraea porteri*, but different in some aspects, which was taken from deep water off Taiwan. This shell was considerably larger (57.7mm X 37.1mm X 30.4mm) and slightly different in shape and dentition and several other features. The differences were great enough for Clover to describe his shell as a new species, *Cypraea joycae*, in *VENUS*, 29(2):35-36. Today most *Cypraea* specialists consider *joycae* a synonym for the earlier-named *porteri*. Readers interested in a thorough diagnosis are referred to an article by Luigi Raybaudi Massilia on *Cypraea porteri* in *LA CONCHIGLIA*, year 9, #104-105, Nov.-Dec. 1977, pp. 4-14. Accompanying the article are color photos of the types of both *Cypraea*

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## Convention. . .Con't from Page 1

was held. Ten shell dealers from around the country filled the convention room with tables of specimen shells and crafts for viewing and purchase. This event has become one of the most popular at the C.O.A. conventions, and not only brought local collectors, but local television news coverage for a report that was to be aired about the convention.

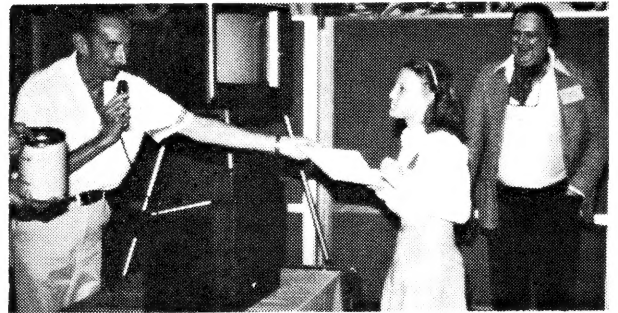


*Local television news covered various events during the convention.*

The auction of specimen seashells was very successful this year, and bidders went home with a lot of choice specimen shells. (See report on the auction in this issue). The business meeting on Saturday afternoon gave members and the executive board a chance to catch up on pending business from the past year. The nominating committee presented the new slate of offices, and after the vote, our new executive officers for 1981/82 are Ruth Greenberg/President; Bernie Pipher/Vice-President; Jay Tripp/Secretary; and Clair Stahl/Treasurer. The Northern California Malacozoological Club was thanked for hosting such an outstanding convention by Wayne Stevens.

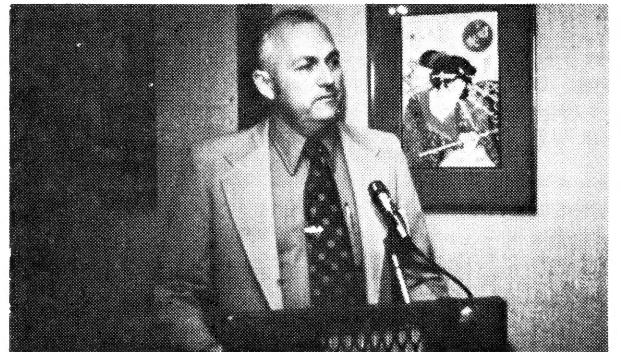


*S.S. Forrest of Lubbock, Texas views some shell fossils at the Academy.*



*Wayne Stevens [left] ran the door prize book give-aways during the convention.*

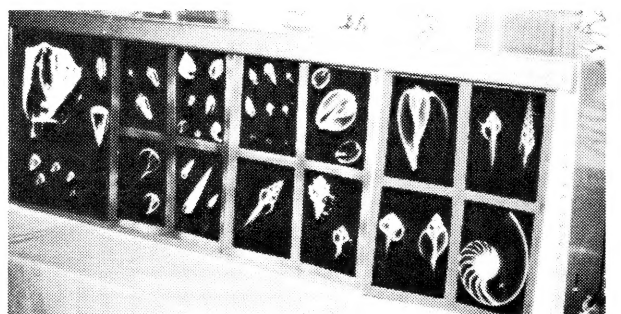
The convention closed on Saturday evening with the Banquet. The guest speaker was Glenn Burkhardt, who along with his wife Laura, are authors of the book "West Coast Chitons." Glenn gave an enjoyable slide presentation on "California Underwater Marine Life." Everyone then said their good-byes, and were off next morning, back to their



*The banquet speaker was Glenn Burkhardt.*

home towns with memories of the Ninth Annual C.O.A. convention.

Next year will be our decade year as an organization, and a very special



*Pat Burke of Nassau Bay, Texas exhibited a number of shell X-rays in the meeting room.*

Cont on Page 6





## SHELLS IN PRINT

By Richard Goldberg

A recent addition to the conchological literature is "South African Shells - A Collector's Guide," by Deirdre Richards, and published by C. Struik Pty., Ltd. Publishers, Cape Town, South Africa. This slick, hardcovered volume contains 98 text pages and

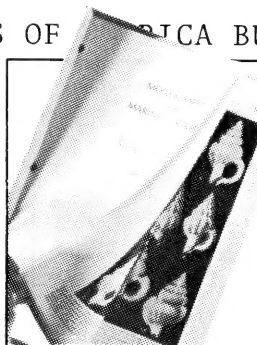
for the first time 60 plates of South African shells illustrated in full color. The high quality photographs represent 527 species of gastropods, bivalves, Chitons, Tusk Shells and Cephalopods that can be found along the entire coast of South Africa.

This field guide-format book is divided into two parts -- text in front and plates following. Each species is numbered numerically in the text and cross-referenced to the plates. Full nomenclature is given for each species (author and date!), along with geographical range in South Africa, and a short but useful description of the shell. The species are presented in taxonomic order. Where necessary comments relative to synonymy, habitat or identification are included.

The introduction has the typical material needed for the beginning collector (classes of mollusks, etc.), and for the advanced collector or those interested in specializing in South African shells, an outline of the coastal environment (including map), and regulations concerning collecting mollusks on the S.A. coast.

The scope of the book covers species you would be likely to find on a collecting trip, and includes some of the rarer species. I was disappointed not to see illustrated four of the rarest *Cypraea* from S.A. (and the world) -- *C. fultoni*, *cruikshanki*, *broderipi* and *barclayi*. Ms. Richards makes mention of them, and states that the former two, although endemic, are not found on the beaches, as are the latter two cowries.

I highly recommend this most useful identification guide. It costs U.S.\$15.95 and is available through Bookwise (Pty.) Ltd., P.O. Box 1144, Cape Town 8000, S.A. Or inquire with your U.S. shell book dealer.



American Malacologists, Inc. has published the second installment in the series of Monographs of Marine Mollusca, on August 15, 1981 -- The Family Buccinidae, Part I [The Genera *Nassaria*, *Trajana*, and *Neoterion*, by Walter O. Cernohorsky. This 52 page monograph covers the three before-mention genera, plus the sub-genus *Microfus*, placed in the subfamily *Photinae*. Cernohorsky states that there are about 120 living generic groups and 60 fossil generic groups in the *Buccinidae*. He also points out that the name *Nassaria* should not be confused with *Nassarius*, which belong to the family *Nassariidae*.

Although no color plates are used in this section of MMM, high quality black and white photographs illustrate the said species. This scientific work illustrates living and fossil species, and outlines geographical ranges on maps. Full treatment of each species is given.

The species covered in this monograph are relatively uncommon to rare, and live in deeper waters below the intertidal areas. Many are not illustrated in the more popular literature, which makes this work useful not only to the professional, but also to advanced collectors and specialists.

Most likely other genera in this family will be covered in future sections of MMM. The cost of this loose-leaf format monograph is \$7.50 post paid, and can be purchased through American Malacologists, Inc., Box 2255, Melbourne, FL, 32901.


ARTICLE OF INTEREST: *Skin Diver*, November 1981; p. 94 "Bring 'em Back Empty," by Cheryl Price. *Scuba divers' access to fresh dead shells in its habitat. She advocates taking these dead, but equal quality specimens. Learning shell habitats*

We were saddened to hear of the untimely death of Rowland F. Zeigler, of Murrels Inlet, South Carolina. Rowland was a knowledgeable collector and was co-author with Humbert C. Porreca, of "Olive Shells of the World." He will be greatly missed by his many friends and loved ones throughout the world. I'm sure you will join us in extending sympathies to the family of Rowland Zeigler.

## Convention. . .Con't from Page 4



Barbara Good of San Diego, CA., and Carol Skoglund of Phoenix, AZ. [foreground], check some of the preserved mollusks at the Academy of Sciences.

convention is being planned in a very special locality, to be announced in an upcoming C.O.A. Bulletin -- hope to see you there. 



Many had time to see the sites around scenic San Francisco during breaks.

## AUCTION

The Conchologists of America held its annual shell auction of donated specimen shells on September 4, during the Ninth Annual Convention in San Francisco. As in the past, this year's auction was a complete success with the help of donators, auction committee, and of course, spirited bidding by collectors attending the convention. The final tally was over \$2100 taken in during the 3½ hour auction.



Auction shells were on display for viewing before they were auctioned off.

Many beautiful and rare species were put up for auction this year, including the Golden Cowrie illustrated in the Stix book "The Shell - Five Hundred Million Years of Inspired Design," and over 150 other lots of shells. The auctioneering was dutifully handled again this year by past C.O.A. president Martin Lerner of New York. A special thanks goes to Phillip Clover who received, organized and listed the shells donated.



Clair Stahl proudly shows the Harpa costata won from the raffle drawn during the auction.

The highlight of the auction was a raffle for the specimen of Harpa costata illustrated in Jerry Walls' latest book, "Conchs, Tibias, and Harps." It is a large and perfect specimen, and 38 ten dollar raffle tickets were purchased in the hope of winning this much sought-after shell. With tickets in hand and fingers crossed the winning ticket was drawn towards the end of the auction -- and the winner was...Clair Stahl! Our own C.O.A. treasurer. He said that this was the first thing he



has ever won. He must still be smiling!

The annual auction is an exciting and fun event at the convention, and we hope to see you at next year's gathering.



Auctioneer Martin Lerner fields another bid for a shell on the auction block.

The C.O.A. thanks the following dealers and collectors for their generous donations to the annual auction of specimen shells:

Carfel Shell Export/ Manila, Philippines  
 Phil Clover/ Glen Ellen, Calif.  
 F.G. Dayrit/ Quezon City, Philippines  
 Tom Honker/ Delray Beach, Florida  
 Morrison Galleries/ Sarasota, FL.  
 Andre Imports/ San Francisco, CA.  
 Panamic Specimen Shells/Phoenix, AZ.  
 Pisor Marine Shells/ San Diego, CA.  
 Ed Schelling/ Shalimar, Florida  
 Richard Goldberg/ Flushing, N.Y.  
 Shamaron Shells/ Deer Park, N.Y.  
 Tidepool Gallery/ Malibu, CA.

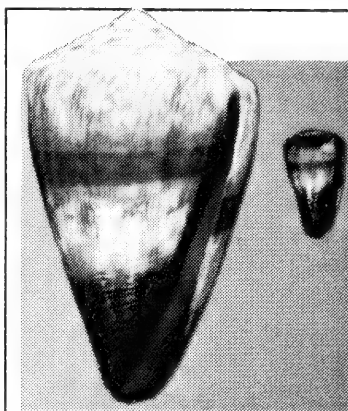
#### Collector Donations:

S.S. Forrest/ Lubbock, Texas  
 R.L. Miller/ South Laguna, Calif.  
 T. Moore/ N. Palm Harbor, Florida  
 J. Paddison/ Birmingham, Michigan

## AN OBSERVATION

While recently reorganizing my *Conus* collection, I was struck by the similarity between two rather widely separated species geographically. The Indo-Pacific *Conus miles* Linne, 1758 and the West African cone described as *C. salreiensis* Rolan, 1980 have distinctly similar color and pattern. Adult specimens of each species are at opposite ends of the spectrum as illustrated below.

Both have a white base color overlaid with orange-brown thin axial lines, divided by a central, but faint band. The base of both are dark brown-black, with raised spiral cords, which disappear

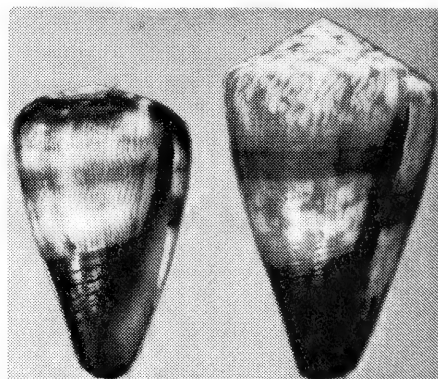


Size relationship between *Conus miles* Linne, 1758 and *Conus salreiensis* Rolan, 1980. Photographs by Richard Goldberg.

above the dark coloring. *C. miles* does lack the dark shoulder and spire found in *C. salreiensis*. Some specimens of this West African cone have the dark shoulder coloring farther down on the body whorl. The second figure shows both species in a close size relationship.

*Conus salreiensis* has come under much controversy as to whether it is a true species or just a form of one of the many diverse West African *Conus*. The illustrated specimen of *Conus miles* is

Many similarities in coloring/pattern become evident with a close look.



from Monuafé Island, Kingdom of Tonga, and measures 58mm in length. The illustrated *C. salreiensis* is from Boa Vista Island, Cape Verde Islands, and measures 19mm in length.

R.G.

- ☒ The 1981 C.O.A. convention Group Photo  
☐ [as illustrated on the cover of this issue, with imprint] will be available soon for purchase. The cost is \$5.50 and payment should be sent to Richard Goldberg [address in masthead]. If you requested one at the convention, it has already been reserved for you, but if not, please order early. Check or money order should be made payable to Richard Goldberg. The photo is a color enlargement, 8" x 10".

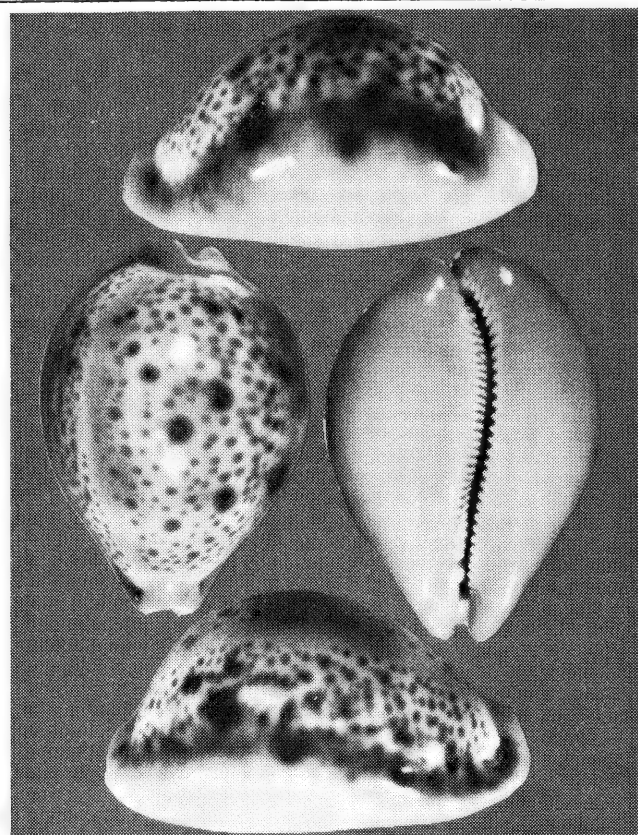
### Speaking Of. . .Con't from Page 3

*porteri* and *C. joycae*, along with five specimens in the author's collection, three of which are larger than 60mm.

In the past few months perhaps twenty specimens of *Cypraea porteri* have been collected in nets in rather deep water (about 150 fathoms) from Balut Island, in the Philippines. I have been able to examine two of these specimens and have seen photographs of two more. These specimens, and from what I can learn about those others from the Philippines that I have not seen, have been much darker in color than those collected in the waters off Taiwan. The Philippine specimens have bright orange bases with dark spotting and a honey-colored dorsum, while those from Taiwan have creamy/orange bases, somewhat lighter colored spots and orange/tan color on the dorsum. The shells from both areas, though, have bright orange margins and canals. It is interesting to note that at this time only the holotype of *C. porteri* was obtained in relatively shallow water. Clover's holotype of *C. joycae* came from a depth of 240 meters. The five specimens reported by Raybaudi Massilia were taken from depths ranging from 170 to 220 meters, and specimens collected now in the Philippines also come from approximately 150 to 200 meters.


The Taiwan specimen illustrated here is 48mm in length and was collected at approximately 200 meters depth by a commercial fishing boat working off Ilan, off N.W. Taiwan. This specimen is in the collection of C. Duprey, Nashville, Tennessee. Its color and shape are typical of other specimens seen from Taiwan. This specimen has 25 labial teeth and 26 on the columella. The second specimen illustrated is from the Philippines and measures 50.8mm in length.

Clover's observation that the specimens from Taiwan have fewer and coarser teeth than specimens from the Philippines seems justified. The average number of columellar teeth of the five specimens reported in *LA CONCHIGLIA*, the holotype of Clover's *C. joycae*, and the specimen illustrated above, is 27.4, and for the labial teeth the average is 25.1. The corresponding figures for the holotype of *C. porteri* are 32 columellar and 33 labial teeth. The Philippine specimen



*Cypraea porteri* Cate, 1966 - from Balut Island, southern Philippines. Photo by Bob Janowsky.

illustrated here has 31 columellar and 33 labial teeth. This specimen is in the collection of Miguel Parcerisas Roses of Barcelona, Spain. The differences in the numbers of teeth are significant when we remember that the holotype of *C. porteri* is 47mm compared to the average length of 55.7mm for the Taiwanese specimens.

One final note on this species -- in the first edition of Jerry Walls' book, *COWRIES*, the author considers *C. porteri* and *C. joycae* as separate species and illustrates on an unnumbered page corresponding to 261 a specimen erroneously called *C. joycae*. I have examined this specimen, which is in the collection of New York Shell Club members Dr. and Mrs. William Walkwitz, and believe it to be a sub-adult specimen of an albinotic *Cypraea jeania* Cate, 1968. In the second edition of *COWRIES*, Walls considers *C. joycae* a synonym of *C. porteri*, and illustrates a rather pale-colored specimen on page 228. 

[This article originally appeared in the New York Shell Club Notes, Dec.1980 #207]

## C.O.A. "Grand Trophy" 1981 (And Participating Shows)

### British Shell Collectors Club

Thirty competitive exhibits and many non-competitive exhibits were featured at the BSCC National Shell Show, Britain's only such event. The show was held on April 25, 1981.

The BSCC newsletter reported, "The premier award at the Show, the magnificent Conchologists of America Plaque, which was made available once more to us by our fellow American collectors, a truly splendid gesture on their part for which we are sincerely grateful, went to club treasurer, Geoff Cox for his stunning display of bivalves. It was a large exhibit reflecting a dedicated study and much collecting."



Geoff Cox proudly shows his C.O.A. Grand Trophy plaque, won at the British Shell Collectors Club National Shell Show.

Geoff displayed about 300 species in the family *Veneridae*, and was entered in the One Family category. World wide species were represented and obtained through purchasing, exchanging and self collecting. Geoff and his wife collected all of the North Atlantic species displayed from around their coasts. He also won a first class certificate for the exhibit.

Geoff decided to display *Veneridae* at the last moment just to put in some-

thing different, as he knew there would be a good representation of the more popular families. He said, "Here is a case where the common shells beat the rarities!"

Geoff has been collecting for about 12 years and has between three and four thousand species in his collection. He concentrates on bivalves (and in particular *Pectens*), cones, and cowries.

Geoff concluded, "I shall be joining the Conchologists of America in the next few days!"

### Midwest Regional

The Midwest Shell Show sponsored by the INDIANAPOLIS SHELL CLUB, was held at Glendale Mall in Indianapolis on August 14-16, 1981.

Winners of the Grand Trophy were Bernie and Phyllis Pipher of Tekamah, Nebraska for their exhibit, "Worldwide Shells - Uncommon To Rare." It was entered in the worldwide category.

This was the first time the Pipher's entered this display in any show, and it consisted of 9 cases, 2 foot square. There were two cases of *Conus*, one case of *Murex*, three cases of *Volutes*, and three cases of miscellaneous families. All contained rare and uncommon species as the title describes. Many of these species had never been seen by collectors attending the show. A *Lyropecten magnificus* displayed in another exhibit won the Pipher's Shell of Show (first place). Specimens of *Conus adamsoni* and *Angaria vicdani* displayed in their worldwide exhibit won second and third place Shell of Show respectively!



Bernie and Phyllis Pipher, C.O.A. Grand Trophy winners at the Midwest Regional Shell Show.

## Conus Moluccensis Group

### Con't from Page 12

which occurs in the Philippines, Okinawa, and New Caledonia. Thus the range of the nominate race dissects the range of *C. m. merletti*. Such a distribution could be the result of changes in sea level during the Pleistocene. At present the taxonomic status of these forms is too uncertain to allow further speculation.

#### *Conus moluccensis merletti* Mayissian, 1974

The name *merletti* has appeared in the shell literature a number of times. With the exception of Mayissian's usage which is also probably the first, these have been provisional and thus unavailable. However, Mayissian's usage is not provisional and meets ICZN requirements for a validly proposed binomial. I might point out that there is no requirement in the present code for a comparison. Only *characters* that differentiate the species are required, and these are given by Mayissian.

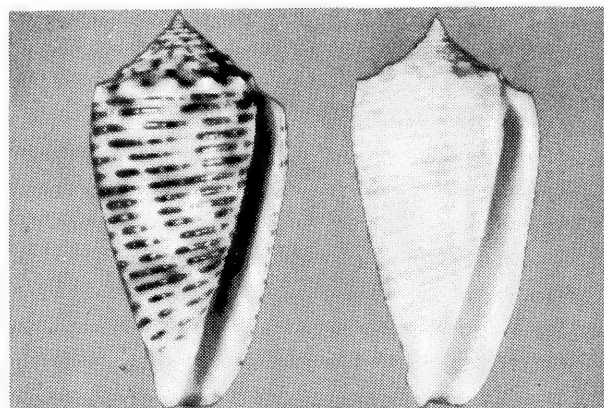
Some authors have used either *moluccensis* or *stainforthi* for the unspotted form. However, both of these names are based on spotted shells (see Cernohorsky, 1974). Therefore *merletti* is the only name available for this taxon.

*C. m. merletti* is most easily differentiated from the nominate race by the formers lack of spiral rows of spots in the color pattern. These two subspecies are certainly similar and later study may show that they are not recognizable. However, it must be shown that spotted shells occur in areas such as New Caledonia or Okinawa where intergrades should not be expected. Intergrades should occur in the Philippines and areas such as the Solomons.

#### *Conus proximus* Sowerby, 1859

(*C. pulcher* A. Adams, 1954 non Lightfoot, 1776 is a synonym)

*C. proximus* is the easiest species of the complex to recognize. All *C. proximus* have opaque white markings in the spiral lines. Such markings are not present in any other species of the complex. Cernohorsky (1974) illustrated the type specimens of *C. pulcher* and *C. proximus* and gave other characters useful in distinguishing this species from *C. moluccensis*.



*Conus proximus* Sowerby, 1859 - from Philippines; [left] Bogo, Cebu/ 33mm; [right] Bohol, Cebu/ 34mm. Photo by Richard Goldberg.

#### *Conus vicdani* Kosuge, 1980

This recently discovered species is superficially similar to *C. moluccensis*. It is, however, quite distinct and not at all difficult to distinguish from *C. moluccensis*. *C. vicdani* has a pattern of spiral lines of colored dashes that may be grouped into loose bands, whereas *C. moluccensis* either has no spiral lines or has spiral lines made up of spots along with reticulations. *C. vicdani* does not develop a constriction at the midbody like that found in *C. moluccensis*. *C. vicdani* has regularly developed dashes between the nodules that form a line at the shoulder while *C. moluccensis* has only irregularly developed blotches between the nodules, and never form a line along the shoulder. The spire of *C. vicdani* with its large nodules and convex profile is also different looking from the spire of *C. moluccensis* which has small nodules.

These species have been frequently illustrated in the literature. Walls (1979) illustrated *C. marielae*, *C. proximus* and *C. m. merletti* (as *moluccensis*). Janowsky (1980) illustrated *C. m. moluccensis* (figure 1), *C. m. merletti* (figure 2 & 3), and *C. vicdani* (figure 4).

[I would like to thank Bob Janowsky for a copy of Mayissian's rather rare publication]

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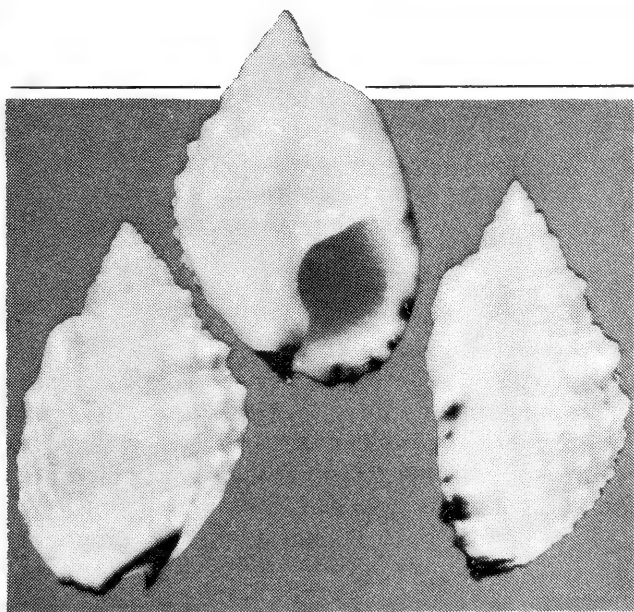
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### Newly Named Nassarius


The illustrated *Nassarius* sp. has been recently named *N. troendleorum* by Dr. W. Cernohorsky in *Rec. Auckland Inst. Mus.* 17: 113-125, December 1980. The type locality is Punaauia, Tahiti, French Polynesia, and its distribution is listed from the Kingsmill group, Gilbert Is., to the Tuamotu Archipelago. Cernohorsky writes that the species is superficially similar to *N. granifer* (Kiener, 1834), but this species has a very large, solid callus which reaches the upper spire whorls, the nodules are larger, fewer and differently arranged and the sharp denticles on the anterior of the outer lip and distinct blackish-brown coloring on the base of



*Nassarius troendleorum* Cernohorsky, 1980, Kwajalein Atoll, Marshall Islands. 20mm. Photo by Richard Goldberg.

the body whorl are absent in *N. granifer*.


The new species was named for Jean and Hildrun Troendle of Tahiti, who collected the specimens and have recorded many new molluscan records from French Polynesia.

The illustrated specimen measures 20mm in length, and was collected at Kwajalein Atoll, Marshall Islands. This locality is just slightly north of the listed distribution of the species. 

### Grand Trophy. . .Con't from Page 9

Their C.O.A. award winning exhibit also took the blue ribbon in the worldwide category.


Bernie and Phyllis have been collecting for about 12 years, and have maintained a general collection. They do have an emphasis on *Conus*, *Murex*, and *Volutes*. Their field collecting experiences have brought them to Florida, Texas and the west coast of Mexico. They have done some scuba diving during their collecting trips.

The Pipher's have been very involved in the success of the C.O.A., and both have held executive board positions. Bernie was recently elected Vice-President at the ninth annual convention in San Francisco. 

### Editorial. . .Con't from page 2

cessor is an able and knowledgeable young man, Gary Rosenberg of New Jersey. Gary is a recent graduate of Princeton University, and is presently working as an Associate of Malacology at the Philadelphia Academy of Natural Sciences. I have pledged my full support to Gary, and hope you will also help in keeping the Bulletin as one of the major sources of information for conchologists.

Over the past 2½ years that I have edited the Bulletin, there have been numerous people who deserve many thanks for their help and support for the Bulletin -- just too many to list. All of the executive boards that I've worked with have bent over backwards to accommodate new ideas and expansion of the issue. Also many thanks to those who submitted articles and newsnotes.

As we enter our tenth year as an organization devoted to the collector, I hope you will join me in supporting our cause...Happy shelling 

Richie



# Some Further Comments On The *Conus Moluccensis* Species Group

By John K. Tucker



Bob Janowsky (1980, 1981) recently presented some notes on the *Conus moluccensis* species group. He noted this complex is difficult to understand and individual species are difficult to distinguish. I will outline here a slightly different viewpoint on the complex.

There are seven validly proposed binomials associated with the complex: *Conus marielae* Rehder & Wilson, 1975; *C. merletti* Mayissian, 1974; *C. moluccensis* Kuster, 1838; *C. proximus* Sowerby, 1859; *C. pulcher* A. Adams, 1854; *C. stainforthi* Reeve, 1843; and *C. vicdani* Kosuge, 1980. The problem is to determine which of these names represent distinct species. Presently it is possible to recognize four species and one subspecies. The following key contains morphological characteristics useful in separating these taxa:

## KEY

1. Opaque white markings present in interspaces of the spiral lines  
.....*C. proximus*  
White markings in interspaces same color as other white areas.....2.
2. Spiral lines poorly developed  
.....*C. moluccensis merletti*  
Spiral lines usually well developed...3.
3. Columella and neighboring area of dorsal anterior end black or dark brown  
.....*C. marielae*  
Columella white....4.
4. Adults distinctly constricted at midbody; blotches between nodules irregularly developed and do not form a line along the shoulder; spiral lines made up of spots  
.....*C. m. moluccensis*  
Adults not distinctly constricted at midbody; irregularly placed brown dashes between nodules form a line along the shoulder; spiral lines made up of broad dashes  
.....*C. vicdani*

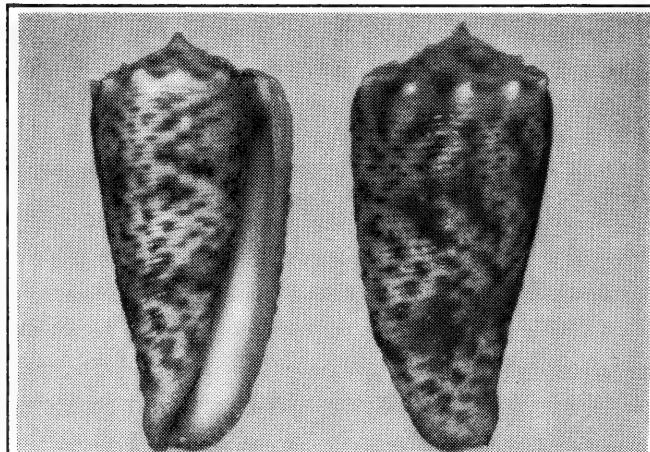
Previous authors have taken rather different viewpoints than the one advocated in this paper. For instance Hinton (1978) recognized just one variable species, *C. moluccensis*. Walls (1979) recognized three species, *C. moluccensis*, *C. proximus*, and *C.*

*marielae*. It should be noted that Kosuge's description was not available to these two authors. No author has recognized Mayissian's name as either validly proposed or a valid subspecies. Since the present paper raises some rather controversial ideas, each binomial recognized is further discussed below.

## *Conus marielae* Rehder & Wilson, 1975

As Janowsky (1981) noted *C. marielae* is endemic to the Marquesas Islands. Philippine shells sold as this species are *C. proximus* or *C. vicdani*. *C. marielae* is quite an interesting species. It appears to be halfway between *C. moluccensis* and *C. proximus*. *C. marielae* does not have the opaque white markings of *C. proximus* and does not have the constricted body of *C. moluccensis*.

## *Conus moluccensis moluccensis* Kuster, 1838



*Conus moluccensis* Kuster, 1838 - New Britian, Papua New Guinea; 42mm in length. Photo by Richard Goldberg.

(*C. stainforthi* Reeve, 1843, is a synonym)

*C. m. moluccensis* is similar to *C. m. merletti* in shape, but seems to differ in coloration. *C. m. moluccensis* has spiral rows of spots whereas these are not present in *C. m. merletti*. *C. m. moluccensis* is also usually more heavily pustulose than is *C. m. merletti*.

The distribution of this subspecies is quite interesting. *C. m. moluccensis* occurs in New Guinea, the Solomons, and the New Hebrides. It is, so far as I can determine, allopatric with *C. m. merletti*

Con't on Page 10

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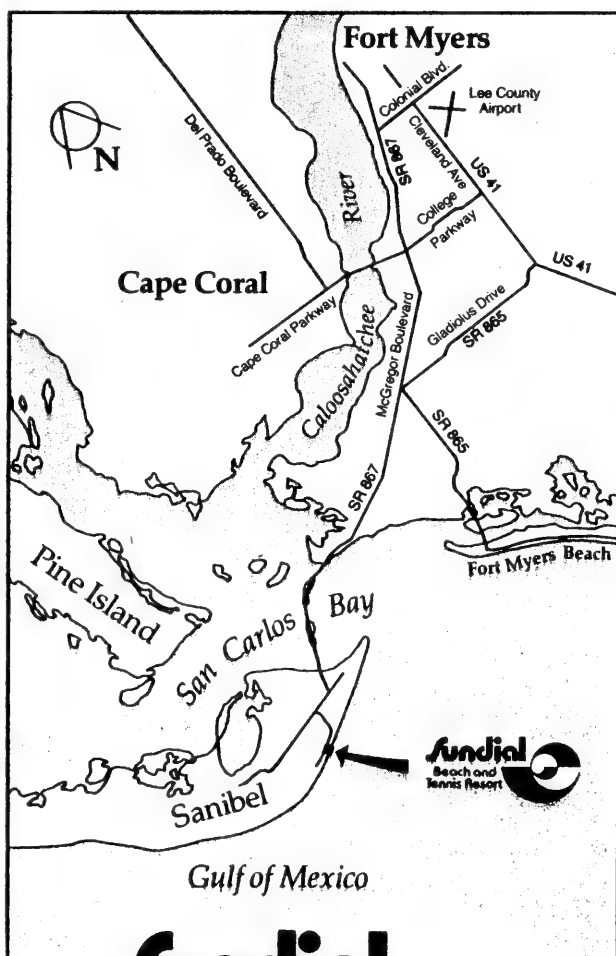
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# CONCHOLOGISTS OF AMERICA BULLETIN

## NUMBER 26

### 10th ANNIVERSARY CONVENTION IN SANIBEL



**Sundial**  
Beach & Tennis Resort



Did you know that C.O.A. has "the most enjoyable conventions of any shell organization"? And, since this is C.O.A.'s Tenth Anniversary Convention, it should be the best convention yet! Therefore, you owe it to yourself to be there!

The 1982 Conchologists of America Convention will convene on Sanibel Island, Florida, one of the shelling capitals of the world! The convention site is the beautiful Sundial Beach Hotel. The convention runs from Wednesday, July 14 through Saturday, July 17. Every one of those four days will be jammed with activities!

One room at the hotel, as a single or double, will be \$55.00 per night. Two-bedroom apartments, for up to four people, are also available at \$90.00 per night.

Earlier this year, a pre-registration and hotel registration form were mailed to all members. These forms have been included as an insert in this issue, to give you a second chance to register.

If you've never been to a C.O.A. convention before, here are some of the things to expect. There will be a series of excellent programs, starting on Wednesday afternoon, covering various aspects of shelling. You can expect to hear about shelling expeditions to exotic places, along with slides that will make you want to hop on the next plane to whatever sheller's paradise is being praised.

[con't on page 2]



## CONCHOLOGISTS OF AMERICA, INC.

A Collective Devotion To  
Advancing-  
Conchology.

In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed -- for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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### BULLETIN STAFF

EDITOR: Gary Rosenberg

The BULLETIN is an official publication of the CONCHOLOGISTS OF AMERICA, INC., published quarterly in March, June, September, and December. We invite you to submit any shell related items for inclusion in the BULLETIN. Address all BULLETIN correspondence to the EDITOR, 49-77 Fresh Meadow Lane, Flushing, New York, 11365.

### MEMBERSHIP DUES

INDIVIDUAL(per year) \$5.00; FAMILY(receives one Bulletin) \$7.00; OVERSEAS(Air Mail Postage) \$10.00; Send check or money order to the TREASURER(address above); \*\*\*Any other membership problems should be addressed to the MEMBERSHIP CHAIRPERSON, Phyllis Pipher, 1116 'N' St., Tekamah, Nebraska, 68061.

## EDITORIAL

First, I must apologize for the long delay in the appearance of this issue of the C.O.A. Bulletin. The editorship of the Bulletin is in a state of flux; I hope that at the upcoming convention matters will be straightened out and the Bulletin will resume its normal quarterly schedule.

Second, I'd like to thank the previous editor, Richard Goldberg, for showing me how to go about producing the Bulletin, and for the huge amounts of work he has put into the Bulletin over the past years.

Third, I hope you will all try to attend the convention. They're lots of fun and there's something for everyone!

## Convention . . . Con't from Page 1

Some of the programs will look at a particular group of shells "in-depth" (or underwater!), while others will talk about "how to." Of course you don't have to stay indoors all day listening to programs. Shells, sun and surf will all be luring you as the beach is a mere stone's throw from the program room.

The welcome cocktail party Wednesday evening is a great place to make new friends and meet old ones. You make friends fast at a C.O.A. convention. You'll eat breakfast with people you met the night before, sit next to someone during a slide show whom you met at the cocktail party; you'll be amazed by how quickly strangers become familiar faces. Be prepared to write down a lot of names and addresses before the convention's over.

Another attraction of the convention is the Dealer's Bourse (no, that's not a kind of soup, although it has lots of ingredients). Remember to bring your want-list (or your have-list, whichever is easier to carry) and your checkbook, because there will be THOUSANDS of shells for sale.

The convention will be capped off by the banquet Saturday evening. The guest speaker will be none other than the inimitable Dr. R. Tucker Abbott.

There will also be two field trips (in addition to the ones you organize yourself). One will be a tour of the Ding Darling Bird Sanctuary. This trip is free, but transportation is not provided. The other is a boat trip to some of the out islands with a local guide. This trip costs \$10.00 per person.

Celebrate Our Anniversary at the 1982 Conchologists of America Convention!

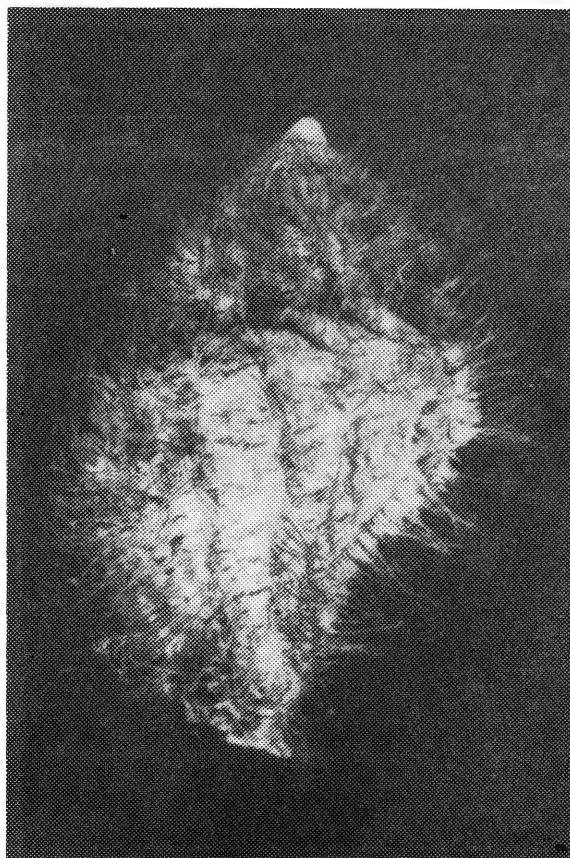
## IN MEMORY

Geraldine Walklet passed away recently after a long battle with cancer. Gerrie was an active member of C.O.A. and one of its past presidents. She will be sorely missed and her absence will be felt many times. We extend our deepest sympathy to her family.

# THE DISTRIBUTIONAL RANGE OF CYMATIUM PARTHENOPEUM (VON SALIS)

by Richard Y. Kirk, Philadelphia, Pa.

The study of the distributional ranges of marine mollusks has attracted the interest of researchers and scholars for centuries. The greatest contribution to this field was made in the middle of the nineteenth century by an Englishman, Samuel P. Woodward, who by studying molluscan distributional patterns determined that the world's seas could be divided into sixteen distinct areas which he called marine faunal provinces. He established that each of these provinces contains a characteristic shelled molluscan population, and that over 50 percent of the species in each province are endemic (i.e. found nowhere else). Thus, Woodward discovered the existence of and named the Indo-Pacific Province, the Caribbean Province, the Boreal Province, the South African Province, and all the others which biologists have found so useful ever since. Woodward's achievement was all the more remarkable for its time, considering the scant scientific information available in his day. Since then, a wealth of new information on molluscan distributions has become available, and better understanding and appreciation of the complexities of molluscan distribution patterns have caused many modifications of Woodward's work. The existence of many sub-provincial areas has been documented, and many anomalous distributional patterns have been observed. For example, it has been shown that the distributional patterns of the Volutidae seldom conform to these provincial ranges. Volutees are almost always restricted to relatively much smaller geographic areas, often only a miniscule portion of a province. The most common volute, *Cymbiola vespertilio* (Linné, 1758), the bat volute, inhabits only the Philippines, Indonesia, New Guinea, and northern Australia. To consider its range to be truly "Indo-Pacific" would be a great mistake and a misuse of the term.



*Cymatium parthenopeum* (von Salis, 1793)  
An 89 mm specimen from the Galapagos  
showing the hairy periostracum typical  
of many Cymatiids.

At the other end of the distributional spectrum is the superfamily Tonnacea (including the tun shells, the tritons, and many others). Many species of this superfamily have unusually broad distributions, often ignoring provincial boundaries. Some members of the group successfully inhabit several provinces. For example, *Tonna galea* (Linné, 1758), the giant tun, is found in six provinces in the Atlantic: the Mediterranean, West African, South African, Patagonian, Caribbean, and the Carolinian Provinces. In addition, it is wide spread in the Indo-Pacific Province.

[con't on page 4]



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Con't from Page 3

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Those members of the Tonnacea which have broad geographic ranges have them for two primary reasons. First, the species are hardy enough to survive in both the tropical and temperate zones. Second, they are blessed with a veliger stage (a free-swimming larval form) which remains afloat in the plankton for a much longer period of time than do the veligers of most other mollusks. This allows ocean currents to distribute them over a wider area than is usual among mollusks.

One family within the Tonnacea in particular, the Cymatiidae, or hairy tritons, is notable for the unusually wide distributional ranges of its members. In fact, this family contains the species which has attained the widest distribution of any bottom-dwelling gastropod. Despite this distinction, the species remains fairly unknown among shell enthusiasts. This species is *Cymatium parthenopeum* (von Salis, 1791).

So uncelebrated is *Cymatium parthenopeum* that it has no common name other than "the hairy triton," an epithet it shares with about twenty other species in the Cymatiidae. The anonymity of the species is probably due to two major factors.

One factor is undoubtedly the whim and fickleness of shell collectors. As the illustrations show, *Cymatium parthenopeum* is a large and handsome shell. Its thick, bristly periostracum explains at a glance why it is called the hairy triton. The animal itself is reportedly fantastically beautiful, with large orange and brown spots which resemble nothing if not a miniature giraffe hide. But the animal and periostracum are seldom seen by shell collectors, and there is nothing particularly exceptional or outstanding about the shell's color, size, pattern, or sculpture which would attract the discriminating collector's eye.

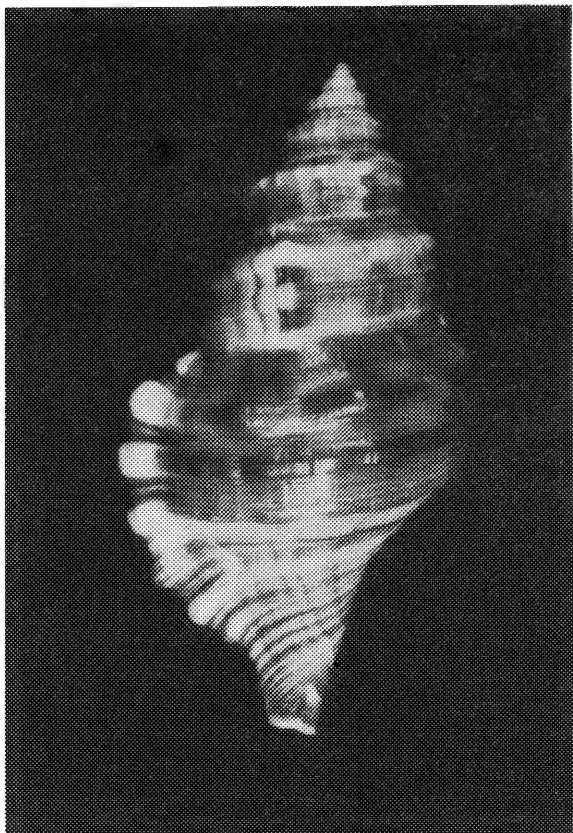
The other factor contributing to the species' anonymity, which has not exactly enhanced its popularity among shell collectors, is the incredible confusion which has surrounded the nomenclature of the species. Usually, confusion of such magnitude occurs in species which have widely variable sculpture or shape, vastly differing

color forms and patterns, or juveniles which differ markedly from the adult form. *Cymatium parthenopeum* however, presents no such difficulties. The general appearance of the shell is remarkably similar among specimens, and the overall appearance is unmistakably unique to the species. So, one may ask, why all the confusion?

The reason for the confusion about this species is its unique geographic range. This becomes apparent in a review of the nomenclatural history of the species.

*Cymatium parthenopeum* was named by von Salis in 1793. He described the species from a specimen found off Naples, Italy. (He named the species after the city, the Greek name for which was Parthenopolis). What von Salis did not know was that fifteen years earlier, in 1778, the famous taxonomist Born had named the shell *Cymatium* (other generic names will not be used here to lessen confusion) *costatum*, presumably from a shell from South Africa. (Born's name is preoccupied by *costatum* Pennant, 1777, so *parthenopeum* is used today.) In the eighteenth century, lack of communication between centers of biological research lead to the renaming of many species. In any case, it would not have been considered likely that a species found in Europe would also be found some 5,000 miles away in Africa. This was only the beginning of the problem for this species. In 1811 Perry named Australian specimens *Cymatium australasiae*. Some thirty years after that (1842), Orbigny discovered the species in the Western Atlantic and named it *Cymatium americanum*. Later still, in 1849, Gould labeled the species *Cymatium brasilianum*, after a specimen from Brazil. The renaming of the species did not stop with the twentieth century. In 1939, Kuroda and Habe named Japanese specimens *Cymatium echo*. This evocative name is the one that has become the best known, despite its being 150 years too late for validity.

As a result of this nomenclatural confusion, many of the current popular books on shells give conflicting or incomplete information about the species. Some books use invalid names, and no book has yet given the complete range of the species.



Dorsal and ventral views of a 135 mm specimen of *Cymatium parthenopeum* from Haiti. The periostracum was removed.

The unique distributional range of *Cymatium parthenopeum* actually covers ten marine faunal provinces almost in their entirety. Starting arbitrarily in the northwest Atlantic, one finds the species inhabiting the Outer Banks of North Carolina. The range extends southward around Florida and throughout the Gulf of Mexico, from the Carolinian Province into the Caribbean Province, where it is found from Bermuda, through the West Indies, on the east coasts of Central and South America to Bahia, Brazil, where it enters the Patagonian Province. The species exists in this province at least as far south as Uruguay, possibly into Argentina. In the Eastern Atlantic, the species appears as far north as Spain and Portugal in the Mediterranean Province. It is found throughout the Mediterranean, and along the North African coast to Senegal, where it enters the West African Province. *Cymatium parthenopeum* actually inhabits the entire coastline of Africa, in itself an accomplishment of very few molluscan species. Thus, the range extends through the tropical West African Province, the temperate South African Province, and the East African sector of the mammoth Indo-Pacific Province. From the Red Sea, the range continues eastward along the Arabian Peninsula and the Persian Gulf to the Indian subcontinent. Although there is little information to verify the species' occurrence from East India to Indonesia, it is more than likely found there. In any case, the species' presence in the Indo-Pacific divide area is well documented. It is found here throughout the Japonic Province, south from Japan, Korea, and China through the East Indies to Australia. The species inhabits the entire coastline of the continent of Australia, as well as most of Northern New Zealand, and the Kermadec Islands. Thus, the southerly, temperate Australian Province also falls within the species' range. The range next extends eastward across the Pacific Ocean. The species has been documented in Micronesia and Hawaii and further east, at Clipperton and the Galapagos Islands, the species enters the Panamic Province. It is found throughout this province from the southern Gulf of California to Ecuador. Crossing the Isthmus of Panama into the Caribbean Province, the range has extended around the globe.

[con't on page 6]

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Con't from Page 5

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This is a range which is unmatched by any other bottom-dwelling gastropod. Moreover, *Cymatium parthenopeum* is rather common throughout most of its range, with the exception of the Eastern Pacific, also, incidentally, the only area where it does not inhabit the temperate provinces. It has never been recorded from the Californian Province, which is somewhat surprising considering its range elsewhere, but it is not surprising that the species is not found in the Peruvian Province, as extremely cold waters prevail there.

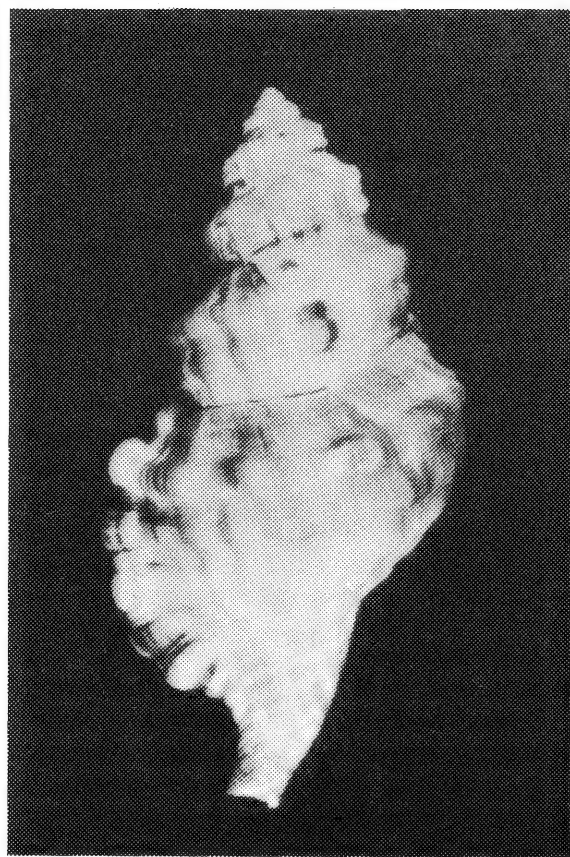
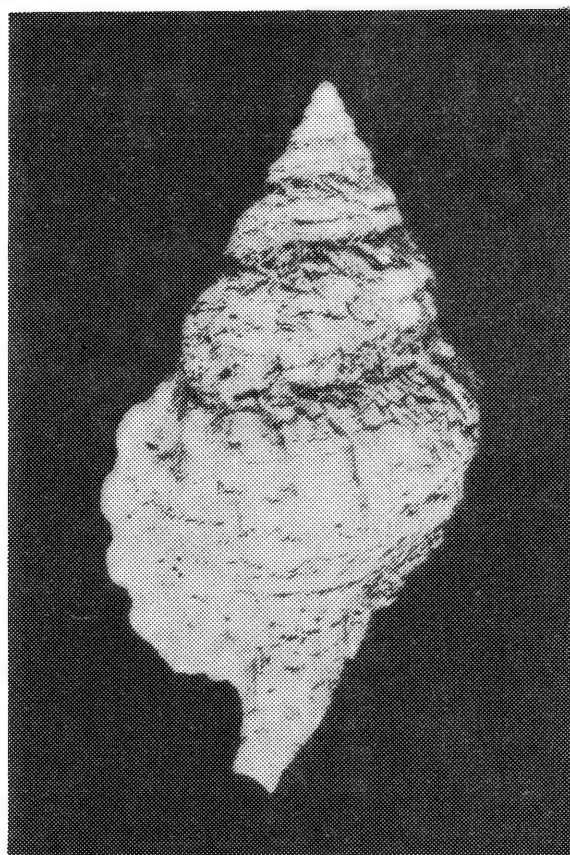
Why has this species been so enormously successful? Basically it is a very hardy species with a diet which is obviously not restrictive. *Cymatium parthenopeum* inhabits shallow to relatively deep water, and can survive equally well in rocky, sandy, or muddy environments. Perhaps the greatest factor contributing to its success however, is its heroic veliger stage. These veligers have been known to stay afloat in the plankton for months, longer than those of any other known species. At least one study has shown it to be the most abundant veliger in the plankton in the middle of the Atlantic Ocean. It is in this manner that the species has crossed the Pacific and Atlantic Oceans.

Other shelled mollusks have achieved similar or even greater distributions. *Mytilus edulis* Linné, 1758, the edible mussel, which survives both tropical and polar conditions, has a range which is truly worldwide. Among the gastropods, *Janthina janthina* (Linne, 1758), the purple sea snail, has a range similar to that of *Cymatium parthenopeum*, but this species remains afloat during its adult stage, never in its life inhabiting the ocean floor. Thus, *Cymatium parthenopeum* is the bottom-dwelling gastropod with the greatest distributional range.

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Top: *Cymatium parthenopeum* from Italy, 140 mm. The periostracum has a crusty appearance in this specimen, and its hairy fringes have been worn off.

Bottom: A Saudi Arabian specimen of *Cymatium parthenopeum*, 142 mm, with the periostracum removed.







## SHELLS IN PRINT

By Richard Goldberg



Cone shell fanciers will be delighted to see a new addition to the shell literature, entitled *Cone Shells of New Caledonia and Vanuatu*, by Jean-Claude Estival, and published by Les Editions du Pacifique. This slick,

hardcover, 126 page volume covers all of the known species of *Conus* from this area (Vanuatu was formerly the New Hebrides.)

The book is profusely illustrated with over 35 high quality color plates, plus six more showing the living animals. The plates clearly show details of the species and are scientifically useful as well as aesthetically pleasing. Very fine specimens were used for the illustrations.

The text of the book is in both French and English; the English being easily separated by its italic typeface. The introduction briefly covers the history and biology of the family Conidae, and provides information on collecting, identifying, storing and displaying, photographing in the aquarium, and keeping live cones, along with a section on the poisonous cones from the area of coverage. Following the introduction are the color plates, with succinct write-ups of each species on the facing page. The genus and species names are in bold, readable type, and both authors and dates are included. The discussions include distribution, shell characteristics (sometimes animal characteristics too!), habitat, average size, and, in many cases, nomenclatural comments.

Frequently a number of variations are illustrated, especially of the endemic species (*Conus cabritii*, *C. bougei*, *C. optimus*, *C. lienardi*, *C. marmoreus* vars. *crosseanus* and *suffusus*). *Conus lamberti* is also an endemic species, but no specimen was available for illustration at the time of printing. Instead, the color plate from the original description (*Journal de Conchyliologie*, Paris, 1877) was reproduced. In an addendum to the book, Estival confirms this rare species'

existence in New Caledonia from a specimen collected by J. Doiteau. (See *Rossiniana*, publication of L'Association Conchyliologique de Nouvelle-Calédonie, no. 11, April 1981, for an illustration of this specimen.)

The addendum also includes a few more updates, corrections of nomenclature, and additional species information, all of which make the book a valuable and current reference for collectors. There might be varying opinions on nomenclature among cone specialists, but Estival's version is quite good, and the excellent illustrations allow the reader to form his own opinions on the identities of the shells.

The photography of the six species of live *Conus* deserves mention: the photos all clearly show the foot, eye stalks, and siphons. It's too bad all of the species couldn't be illustrated in this fashion!

*Cone Shells of New Caledonia and Vanuatu* is highly recommended as an addition to any conchological library. The suggested list price is under \$20.00, and in this day of high printing costs, can be considered a real bargain.

## COA SCRAPBOOK

Jay Tripp, our enterprising Secretary-Historian is preparing a Scrapbook for C.O.A. Anyone having pictures or other two-dimensional memorabilia is invited (that is, strongly urged) to send such to her at 212 Connecting Road, Pittsburgh, PA 15228. If you can't bear to part with your photos, have copies made, or send the negatives which will be returned to you after they've been reprinted.

## BECOME FAMOUS

Write an article for the C.O.A. Bulletin! One of the hardest jobs the editor has is getting together enough material to fill each issue. In previous issues of the Bulletin, many articles are anonymous. That's because they were written by the hard-working former editor, Rich Goldberg, so he could get a complete issue to press.

So, consider writing an article for the Bulletin. It can be long or short, colloquial or scholarly, funny or serious. The editor will proofread for you, take photos to illustrate your article for you; he'll even suggest topics if you're not sure what to write about.



# OPEN LETTER TO A YOUNG CONCHOLOGIST

Dear James Russell White:

I saw you recently at the Miyako Hotel, where you were attending the Ninth Annual Conchologists of America Convention.

I am thirty-six years old, twenty-five years older than you, young man, and I never knew that shell lovers actually convened to discuss the objects of their adoration.

I know that there are about 700 of you conchologists in your shell club, and I know that some of you deal them and some of you collect them and some of you just pick them up and put them back down.

Babies are probably the most natural shell-collectors in the world, because their hands are their eyes, and you, just eleven years old, have begun to categorize them, study them, know them by their glorious names and flaming hearts, by their ochres and tans, by their symmetry, by the little pieces of meat that live within them, the way an anthropologist knows the piece of meat we call man, knows him by his shell — by his surroundings, his houses, his clothes, his mortality.

I know the love of shells runs in your family. I know that your father, James Seeley White, has written *Seashells of the Pacific Northwest* [Binford and Mort], and that your whole family — mother, father and sisters — dives into the dark waters of Oregon to pick the gorgeous prizes produced by the lowly snail.

Who ever knew that a snail was anything but a snail, a creature on the bottom of the pools, a dung monster? Who ever would believe that a tiny oozing muscle could produce fragile lavender houses so stunning and peculiar that they take away your breath?

I listened to your commentary as slide after slide of snail shell lit up the small ballroom of the hotel and the gloomy gray morning came alive in your words. I saw your slides of the roaring north Pacific, all gray and swirling, almost black and ungodly, and then I saw the slides of the snails living in that roar — dancing cylinders, shapes of man, of bird, of fish all caught up in the movement of clinging shell, the way trees can sometimes look like squirrels or fox or deer or the other animals who inhabit their forests.

I learned about collectors who come to fish markets early in the day, because some of the prize shells might be wrapped up in the guts of a cod, or a flounder, or a halibut. I learned about the muscles that hold the shells together and the shells that hold the muscles together.

I saw your younger sisters and they reminded me of children in the sea — youthful shells all pink and shy, turning inwards and outwards, singing like wind, like water, like weeds.

I know that members of your club come from Hawaii, New York, Texas, Oregon, Washington and from all over California, that there are members of your club from all over the world, all no doubt lovers of scallops and abalone — your father's favorite food — all with boxes of secret shells, shelves of points and stars and mottled twists, tables full of blushes. Cockles, cockles they sing. Snail eggs and snail coats. Snail colors man could never copy.

And there you were, a skinny kid in a blue hooded sweatshirt and jeans, off to all the unusual places with your family, just another kid with another numbered jersey, just another kid with a mouth full of poetry and shell after shell of beauty in your memory.

So I just wanted to thank you, because it's not often you walk into a dark room and come away full of light.

Gratefully, Ira Kamin

# WHO'S WHO IN COA

by Jay J. Tripp, Pittsburgh, Pa.

In this, the tenth anniversary year of the founding of COA, it seems fitting and proper that we should look back and acquaint ourselves with our small beginnings.

John R. Paduano of Newport, Rhode Island felt the need in June of 1972 to form an organization of all known shell collectors. He used the *Petit Directory of Conchologists* as a guide to interested people, and called a meeting to be held at the Newport Motor Inn for October 16, 17 and 18 1972.

In John's words, "the response was not tremendous in numbers but great in enthusiasm." A total of eight people converged in Newport that October: Kirk Anders of Fort Lauderdale, Florida; Mrs. Robert Armstrong of Westford, Massachusetts; Carl Erickson of Auburn, Massachusetts; Dorothy and Robert Janowsky of Brooklyn, New York; Mrs. Bette Rachlin of Brookline, Massachusetts; Miss Mavis Walkup of Clovis, New Mexico... and John Paduano.

For that very first banquet, which was "fit for a king," John had arranged for two speakers of note: Dr. Harold Snyder, Professor of Biology at Barrington (Rhode Island) College, and Dr. Nelson Marshall of the University of Rhode Island Graduate School of Oceanography.

The first slate of officers elected for COA were:

Mrs. Betty Rachlin, President  
Kirk Anders, Vice-President  
Dorothy Janowsky, Secretary-Treasurer

These charter members voted to hold their second convention in Fort Lauderdale.



Yes, John R. Paduano, Founder of our organization, is alive and well and living in Golden Beach, Florida as a "Snowbird," but returns to beautiful Newport, Rhode Island for the summer months.

John began his career in the U. S. Navy in January of 1935. He's a veteran of World War II, and was recalled for active duty in September, 1950, during the Korean campaign.

He married the former Eleanor Lalli, a union which produced four sons: Michael, also a Navy man; Ralph, a major in the U. S. Army; and twin sons, John, Jr. and Anthony, both computer programmer analysts for the Internal Revenue Service.

During his naval tours of duty on tropical shores, our founder began picking up seashells (as did many traveling military men) until, by his own admission, he owned the largest private shell collection in New England.

It was at this point, June 1972, that John Paduano decided to attempt to organize all known conchologists. How successful he was at this endeavor is now history. From the eight enthusiastic shellers who turned up at the Newport Motor Inn on October 16, 17 and 18, 1972, our membership has grown to more than 700 strong at present.

John retired from the Navy in 1971 at the age of 55. Not content to rest on his achievements, he subsequently served as a State Representative in the Rhode Island General Assembly for four years: 1976-1980.

In which field will our John Paduano next excel?



Kirk Anders, COA's first vice-president, and the group's second president, is well-known to most of us as the affable, wide-smiling owner of Fort Lauderdale's Shells of the Seas, Inc. Kirk is also known as a leader of shelling tours, and as such, has traveled almost two million miles.

Before arriving at this successful point, many things happened. Kirk's first involvement with seashells began in the early 1950's, in northern California, where his parents fished and their four or five year old son beach-combed for shells. His father being in the textile business, Kirk's family had lived in every state except four by the time he was 15. Wherever he lived or vacationed, his interest in shells increased.

As a junior in high school in 1961, at about age 17, our subject started his own shell business as a means of paying for his college education. Later, at the University of South Florida, he worked as Personal Assistant to the Head Cashier,

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and developed his shell dealership on weekends. In 1965, with a parental investment of \$500, Shells of the Seas, Inc. was born. Kirk aimed to provide always accurate and complete locality data and to sell only high-quality specimens.

Four years later, Kirk graduated from the University with a B. A. in Education and enough credits for a degree in Marine Biology.

During this time, Kirk's entire inventory of shells (originally contained in one small 30-drawer chest), expanded to the present three buildings, totalling well over 1,000 square feet of brimming cabinets, almost 5,000 different species and hundreds of thousands of specimens.

For the next three years, Kirk taught Oceanography and Marine Biology in a Fort Lauderdale high school, leaving only to form the "Tours" section of his corporation in 1972. This successful venture grew from a first trip to Cozumel with only Kirk and his parents in the group, to six customers on the second trip, six tours offered the next year, and upward in both number of tours and larger groups ever since. This year he'll add Thailand, Puerto Rico, the Virgin Islands, and the Florida Keys to his itinerary.

Kirk's recent attempt to issue a shell magazine was a smash hit with the shell world, but ran into financial problems, among them the increasing cost of good color work and printing.

Kirk credits two people, in addition to his parents, with having the greatest effect on his life and career: Dr. Eugene Clark, a prominent ichthyologist, with whom he worked on a National Science Foundation experiment at Cape Haze Marine Laboratory; and Mrs. Amy Phares who had an outstanding shell collection, and was instrumental in supplying the specimens for the Warmke and Abbott book, *Caribbean Seashells*. Kirk visited Mrs. Phares monthly to trade. She also traded shells with the Emperor of Japan, and passed one of these historical specimens to Kirk as a gift.

Kirk says, "When we [COA] first met in Newport, Rhode Island, just those few years ago, we only dreamed of the organization building itself into what it is now, with hundreds of members, and the

most enjoyable conventions of any shell organization. My only regret is that we only get to do it once a year!"

We say "Hear! Hear!, Kirk," and look forward to your continued involvement with COA!

Jay Tripp is Secretary-Historian for C.O.A. In future issues of the Bulletin she will continue her "Who's Who in COA" series with articles on Dorothy Janowsky, the first Secretary-Treasurer of COA, and on Tom Rice, the organization's third President.

## C.O.A. "Grand Trophy" 1981 (And Participating Shows)

Robert Foster and Charles Glass won the C.O.A. Grand Trophy at "The West Coast Shell Show, 1981" with their display entitled *Cowries*. They exhibited nearly 200 species including *Cypraea fultoni*, *barclayi*, *valentia*, *teremachii*, *kuroharai*, *armeniaca*, and *cruickshanki*. They also won the "Shell of the Show" trophy for a specimen of the remarkable *Homalocantha anomaliae* Kosuge, 1979.

The show was sponsored by the Santa Barbara Malacological Society. It was held from Friday, September 18th through Sunday the 20th at the Fleischmann Auditorium of the Santa Barbara Natural History Museum. The judges were Dr. R. Tucker Abbott, Ruth Greenberg, and Carole Heitz, editor of *Festivus*, the publication of the San Diego Shell Club.

Robert and Charles are co-chairmen for next years show, "The West Coast Shell Show, 1982," and preparations are already underway. The dates are Saturday and Sunday, October 2nd and 3rd. Write for details to: West Coast Shell Show, Box 30191, Santa Barbara, CA 93105.



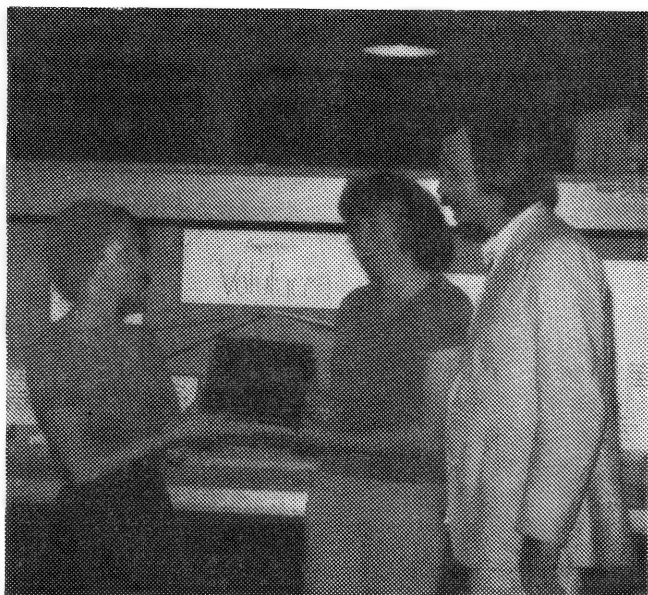
Another Grand Trophy winner was Cora Staples, for her exhibit *Worldwide Collectors Items* at the North Carolina Shell Club Show. The show was held on 23-24 October, 1981 in the Independence Mall, Wilmington, North Carolina, and was judged by Dr. Abbott. Mrs. Staples also won Shell of the Show with a specimen of *Mitra helenae* Radwin & Bibbey, 1972, in addition to the Dupont Award!



The winners of the C.O.A. Grand Trophy at the 17th Annual Shell Show of the Oregon Society of Conchologists were Bob and Ginny Zeller with their exhibit *Volutacea*, a Superfamily. Their display showed how the classification of shells is done, breaking down the superfamily into families and describing the characteristics common to members of each of the families. It included specimens of the families Olividae, Vasidae, Harpidae, Mitridae, Volutidae, Marginellidae, and Turbinellidae, each shell named and with data. A glossary of terms was part of the display.

The Zellers have two sons, Bobby and Scott. Bobby is interested in shells and has become a serious student of malacology. About five years ago, his interest and enthusiasm brought all four members of the family into the Oregon Society of Conchologists, where they have been consistent winners in the Shell Shows.

Faye Rathbun, Shell Show Publicist



Bob and Ginny Zeller receiving the C.O.A. Grand Trophy at the 17th Annual Shell Show of the Oregon Society of Conchologists, for their exhibit *Volutacea*, a Superfamily. Maxine Hale is presenting them with the trophy.

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*Busycon contrarium* (Conrad, 1846) and *Pleuroploca gigantea* (Kiener, 1840) — our Lightning Whelk and Florida Horse Conch — don't occur in the Bahamas. Instead there are, and we found our share of, *Turbinella angulata* (Lightfoot, 1786), the Chank or Xancus Shell, and the Triton's Trumpet, *Charonia variegata* (Lamarck, 1816). The natives have no common names for these large but less common shells, but they call small shells "whelks" no matter what species. They call *Strombus gigas* Linnaeus, 1758 not "Queen Conch" as we do in Florida, but just plain "Conch." They call our King Helmet, *Cassis tuberosa* (Linnaeus, 1758), "Queen Conch." So much for common names!

We found practically all the more common shells that occur in both Florida and the Bahamas, maybe with slight area variations. There were three species or more of chitons, tooth shells, limpets, and periwinkles — so plentiful that Beanie Sawicki gathered some for shell show use. There were *Thais*, *Purpura*, *Oliva*, *Latirus*, *Leucozonia*, *Tegula*, *Columbella*, fresh-dead pink or yellow edged *Codakia*, and much, much more. We collected or noticed *Arca*, *Astraea*, *Lima*, *Tellina*, *Bulla*, and *Marginella*. We salvaged *Laevicardium* and *Asaphis* from refuse piles at the beach, but found none alive for our specimen collections. Bea Winner and I searched diligently but could find neither *Natica* nor *Polinices*, not even a dead one in a drift line.

So, you can't always predict what you're going to find, or what collecting conditions will be like. Some groups found Milk Conchs and others did not; some found Carrier shells and Apple Murexes which others did not. One group could not swim all along one shore due to strong winds, high waves and surf. The group of seventeen had calm weather and shelled both shores. You too may go to Eleuthera and find different conditions. Just enjoy what you find, even if it isn't what you had your heart set on finding. The people will treat you well, they are friendly and soft-spoken and wave to you on the road. I think nearly everyone knew us, where we stayed, and where we came from.

**DON'T FORGET!** - Fill in the Pre-Registration Form in this issue. Attend the Convention! Help Celebrate Our Anniversary!



# ELEUTHERA . . . . SEVERAL TIMES

by Corinne Edwards, Coconut Grove, Fl.

Several shell clubs in Florida have recently run shelling trips to Eleuthera in the Bahamas. One thing collectors can learn from these trips is *never* to expect to find the same species of shells, or the same quantity of any one species when revisiting a known area. The time of year, the barometer, the winds, and the tides all can make a big difference, as the experiences of the several groups will show.

Mary Lou Pugh's Jacksonville Shell Club group of five, and the Miami Shell Club group of six both made Eleuthera trips. Jacksonville found no *Strombus costatus* Gmelin, 1791 (Milk Conchs) while Miami found beautiful ones by the hundreds in early November. They were close to shore at almost every beach or rocky shore we visited.

On a Miami Shell Club trip in early August with seventeen shellers, it was different. Close inshore we found only a few live Milk Conchs, and they were very old, with blackened, thick lips, and blackened parietal walls. There were lots of dead ones. Beverly Riviera, our Field Trip Chairman, reported that in deeper water there were plenty of live, lively Milk Conchs. They were laying eggs in long thread-like strings, pale yellow in color. These strings sort of clump up, and were free of sand, so three of our group took small amounts for study. As usual, the shallow water was thick with broken Milk Conch shells where natives, in the season when the mollusks are close to shore, had smashed the shells and taken the bodies for food.

When a group from the Palm Beach Shell Club went to Eleuthera, they found high waves and rainy weather, but I gasped in amazement to see Mari Hughes' eight big, frilly, yellow-apertured *Murex pomum* Gmelin, 1791. On our group of six trip, only a pair of Apple Murex had turned up until Bev went out into deeper water bent on finding her own (and did). On the Miami trip in August, most of us found one or two of these beautiful *Murex*.

Mari also had Lace Murex, but not like the few big brown ones Mary Karwowski found, nor the cruddy one I took. Mari's were light tan and mid way in size between our big ones and some tiny, tiny (dwarf?) ones we found in a mucky, ikky area. [Dwarf-like *Fasciolaria tulipa* (Linnaeus, 1758) were there also.] The light tan shells seemed more like our south Florida subspecies, *Murex florifer dilectus* A. Adams, 1855, and not like the darker, larger Bahamian true Lace Murex, *Murex florifer* Reeve, 1846.

Off the airport, the Palm Beach four harvested big, ugly but fascinating Carrier Shells, *Xenophora conchyliophora* (Born, 1780). I don't think any of our group of seventeen found any there. One of Mari's had attached perfect little Rose Coral (*Manicinia areolata*) when young, and progressively larger perfect pieces as it grew. Another Carrier Shell from this area had progressively larger chips of cement for its shell decoration; perhaps they came from the airport boat ramp where cement was poured down over the rocks. On the August trip, ten year old Andy Dickson found five giant Carrier Shells right in front of our rooms, which faced the town beach. They had full-sized *Chione cancellata* (Linnaeus, 1767), the Cross-barred Venus, attached at the last go around. We had avoided shelling there because of the boats coming ashore to sell fish and lobster, and because of the refuse strewn there, such as lobster heads and fish guts.

*Cittarium pica* (Linnaeus, 1758), mostly salvaged from the native's refuse piles, were all small, about an inch and a half across. We seldom saw any larger ones such as we used to see at South Bimini (before the Sunshine Inn closed) or those on all three Cayman Islands (Grand, Little, and the Brac). The Bahamians make a delicious black "Whelk Stew" from these mollusks, so maybe this West Indian Top Shell is being overfished for food and not allowed to grow to full size.

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# CONCHOLOGISTS OF AMERICA BULLETIN

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VOLUME 10, No. 3, SEPTEMBER 1982 (27)

Fig. 1. Sanibel beach was just a stones throw away from the convention room. Meeting breaks found many collectors beachcombing along the shore. All photos by Richard L. Goldberg.



## THE C.O.A. SANIBEL SOJOURN OF 82

R. TUCKER ABBOTT

In what proved to be the most successful convention in the ten-year history of the Conchologists of America, over 200 enthusiastic shell-collectors revelled in four days of shell talks, shell shopping and shell collecting. Sanibel was certainly an ideal place to hold the 10th anniversary meeting, and despite the warmth of those mid-July days, the cool mornings and comfortable quarters of the Sundail Beach Resort made the gathering of the shell clan a delightful reunion.

C.O.A. members could not have asked for a finer series of illustrated talks on shells varying from travelogs to Okinawa and the Philippines to ventures into the "Kingdom of the Land Shell" and vistas of "Pretty Pectens". Archie Jones of Miami took us back into the early days of *Liguus* tree-snail hunting, while Charlie Hertweck of Venice, Florida, let us view the fossil wonders of Florida of 30 million years ago. While some lectures offered an intimate review of such

(continued on page 8)

Fig. 2. Checking out auction selections before the recordbreaking auction. Generous donations and spirited bidding made this C.O.A.'s most successful auction.





In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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The BULLETIN is an official publication of the CONCHOLOGISTS OF AMERICA, INC., published quarterly in March, June, September, and December. We invite you to submit any shell related items for inclusion in the BULLETIN. Address all BULLETIN correspondence to the EDITOR, Box 3010, Santa Barbara, CA 93105.

#### MEMBERSHIP DUES

INDIVIDUAL (per year) \$7.50; FAMILY (receiving one Bulletin) \$10.00; OVERSEAS (Air Mail Postage) \$10.00; Send check or money order to the TREASURER (address above); \*\*\*Any other membership problems should be addressed to the MEMBERSHIP CHAIRPERSON, Phyllis Pipher, 1116 N Street, Tekamah, Nebraska, 68061.

## PRESIDENT'S MESSAGE

The C.O.A. now starts its second decade. The first decade ended in a spectacular fashion with the recent convention at Sanibel. The beginning of the new decade looks great. Bob Foster and Charlie Glass have taken over the editing and publication of the Bulletin. Their previous experience in this field bodes well for the future of the Bulletin. They can use all the help they can get in the form of articles. If you have a subject you would or could write about, drop them a line. They are waiting to hear from you.

The establishment of the Gerrie Walklet Scholarship Fund is a first in this area for the C.O.A. It is a fitting tribute to Gerrie. Directed contributions for this fund, which will go to help some aspiring malacologist, are most welcome.

The dues were raised. This was a necessity. While the club is currently in sound financial shape, an increase in dues was necessary to keep it there.

At the start of the second decade a fair question is: what can the C.O.A. do for you? What features would you like to see in the Bulletin? What projects similar to the C.O.A.

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## EDITORIAL

We plan to make rare use of this column, but this being the first bulletin published and edited by us, we feel that a few words of introduction are in order. We have been collecting shells since 1973 and have a large and general collection. In 1981 we purchased the stock of Seashell Treasures in Oakhurst, California and conduct a mail order shell business under the name of The ABBEY, Specimen Shells. Since 1965 we have been editing and publishing the Cactus & Succulent Journal of the Cactus & Succulent Society of America, a bi-monthly publication. Since 1968 we have conducted a mail-order book business specializing in horticultural books, particularly books related to succulent plants, under the name, Abbey Garden Press. Abbey Garden Press was founded in 1929, and the press, specializing in garden books, had its office in the Abbey San Encino in Pasadena, California, hence the puzzling name. Besides the C.O.A., we are members of the Hawaiian Shell Club, the San Diego Shell Club and the Santa Barbara Malacological Society for whom we have chaired various of their West Coast Shell Shows.

As to our relationship to the C.O.A. Bulletin, we are pleased and enthusiastic to be involved with this enterprise. Undoubtedly there will be changes, but we plan to make these changes relatively gradually. Among the first changes we envision are a change in size and format of the bulletin for reading convenience and economical use of paper, but having often been frustrated by publications which change their format in mid-year, in consideration of those members who have their bulletins bound, this change will probably be made at the end of the current volume. Adoption of the volume system is the main change we have instituted to date. This being our 10th anniversary as a national organization, we are designating the current year's issues as Vol. 10; the September issue should have been the third of the year, so we are designating it No. 3, even though no No. 2 was published.

At the suggestions of your President and Membership Chairperson, respectively, we are initiating 2 new features: a "trading post" for members who wish to exchange shells, but as Dick suggests, "an exchange column with a twist — exchange of fairly common shells rather than rare shells. I have answered too darn many exchange ads where all people are looking to exchange are super-rarities. This type of exchange leaves most of our members out". The other item is a listing of members who welcome other members to visit their collections. Phyllis has volunteered to start this one off by inviting any members who happen to be passing through Tekamah, Nebraska to visit: Mr. & Mrs. Bernard T. Pipher, 1116 N Street, Tekamah, Nebraska 68061, just 40 miles north of Omaha, phone: (402) 374-1818 (office: 374-2771). Interests: Cones, Murex and Volutes (and other pretty shells. . . but very few cowries).

The only other change planned for the present is to accept advertising related to the hobby and science of Conchology. We consider that the specimen shell dealerships are an important element of the hobby, and that accepting advertising is not only a service to our membership but it enables us to produce a larger and better publication without increased cost to the members.

We hope to win your support not by our words but by the quality of your publication. To achieve the desired quality we need your help, in contributing material to the Bulletin and in encouraging your friends and associates to join our group.

The Editors



### C.O.A. GRAND TROPHY Winners

#### Central Florida Shell Show, March 1982

winner: Peggy Williams

display: "Self-Collected Suncoast Shells"

Mrs. Williams from Sarasota, Florida began collecting shells at the same time that she took up SCUBA, about 8 to 9 years ago, and since then her interest has snowballed. She has dived mostly in Florida and the Caribbean and her collection is entirely self-collected. Her specialty is photographing shells while they are still alive, and she maintains a salt-water aquarium with many molluscs. Her exhibit was 21 feet of shells arranged according to habitat and collecting method. Mrs. Williams is past-president of the Sarasota Shell Club.

#### The 1982 Broward Shell Show, Feb. 5-7, 1982

winner: Gene D. Everson

display: "Worldwide — Self-collected"

This 4th C.O.A. Grand Trophy won by Mr. Everson went to his exhibit consisting of 9 cases containing self-collected shells from the U.S., Mexico, Costa Rica, Bonaire, the Bahamas, Guam, Okinawa, Australia and the Philippines. A backdrop presented illustrations of four methods of collecting: SCUBA, beach-combing, snorkeling and dredging.

#### L.I.S.C. Show

winner: Fred Cannon

display: "The Shell — Art in Nature"

Mr. Cannon, from Brooklyn, New York, started collecting in high school in 1956. He is an interior designer and working with color and pattern gave him the inspiration for his display which consisted of 5 cases featuring Color, Pattern, Shape, Texture and Nature's Goofs. Mr. Cannon is currently serving his fourth consecutive term as president of the New York Shell Club.

#### The Georgia Shell Club's 4th Annual Georgia Shell Show, March 12-14, 1982

winner: Peter Maltese

display: a 7 X 8 ft. plastic dome with approximately 1500 pounds of coral, 47 spondylus, 22 cowries (including *Cypraea fultoni*, *C. leucodon*, *C. broderipii*, *C. teramachii* and *C. valentia*!) and various pectens, volutes, olives and cones.

Mr. Maltese spent 9 hours setting up the display but "seeing the happy people around (it) made it all worthwhile". His display also took the People's Choice Award.

Fig. 1. One of C.O.A. Grand Trophy winner, Fred Cannon's 5 cases, this one featuring "Color" in shells, at the L.I.S.C. Show.

We invite show chairpersons to take advantage of the shell world's most desirable trophy, the C.O.A. Grand Trophy, by applying to our new Chairperson of the Trophy Committee: Ann Joffe, 1163 Kittiwake Circle, Sanibel Island, Florida 33597. Due to lack of space, the other winners will be featured in the December issue.

#### Greater St. Louis Shell Show, 1982

winners: Denver D. and Rosanna Howlett

display: "Land and Tree Snails"

The Howletts' exhibit included 168 different species of land snails in six cases running 17 ft. Panels behind the cases included photographs of live tree snails and descriptive information.

The Howlett's are charter members of the Indianapolis Shell Club and have both served as officers of the club. Mrs. Howlett collects general/worldwide shells but specializes in land snails; Mr. Howlett's favorite is the genus *Lambis*.

Fig. 2. Peter Maltese's award-winning display at the Georgia Shell Club's 4th Annual Georgia Shell Show.





## SHELLS IN PRINT

RICHARD L. GOLDBERG

Over the last 8 to 10 months, there has been a flurry of newly described species in various scientific and popular publications which may be of interest to collectors. Below is a capsule outline of some of these sp. nov. and their respective publications for your further investigation.

Volume 96, Number 3 of *The Nautilus* (July 26, 1982), has a description of a new species of *Busycon* from the eastern United States. *Busycon laeostomum* Kent, 1982, is a large, sinistral species collected off-shore along the Atlantic coast between southern New Jersey and northern Virginia. It has been referred in the past to a sinistral form of *B. carica*, or as *B. contrarium*. Kent shows it distinct from the two former species through morphological studies. He concludes that prior to 1967 no specimens of *B. laeostomum* appeared to have been in museums, and that the availability of live-collected specimens recently made it possible to differentiate these three species.

Volume 30, Part 6 of the *Journal of Conchology* (November 1981), scientific publication of the Conchological Society of Great Britain & Ireland, has descriptions of two new species from Masirah, Oman, Arabia. Kathleen R. Smythe and June E. Chatfield have described *Fusinus (Sinistralia) gallagheri* and *Bullia rogersi* from material collected during two expeditions of the Royal Air Force Ornithological Society to Masirah, and from material in the collection of Dr. D.T. Bosch. *F. gallagheri* is the fourth species added to this subgenus of odd but naturally sinistral *Fusinus*. It is compared to other members of the subgenus and other dextral members of the genus *Fusinus*. At the time of publication no live specimens were collected, but subsequent to the description's release this author has seen live-taken specimens in circulation. The species was named for Mr. M.D. Gallagher who collected and donated specimens to the author.

The second species described in this paper, *Bullia rogersi* was examined only by Smythe. It has been found only from the Masirah area and is compared with *Bullia tranquebarica* and *B. tahitensis*, both of which appear in the Gulf of Oman and Arabian Sea. The species is named for Mr. T.D. Rogers who brought the new species to the author's attention.

The *Bulletin of Malacology of the Republic of China*, published two papers in 1981 describing a new species of *Conus* and a new sub-species of *Murex*. Volume 8, pp. 11-13 contains the description of *Phyllonotus superbus problematicum* Lan, 1981. The author states the sub-sp. nov. is distinguished from the nominate form of *P. superbus* by its numerous sharp spines recurving upward and backwards, and possessing tiny scabrous varices on each whorl, among other differences discussed. Its type locality has been designated as Bohol, Cebu, Philippines, in 300 meters depth. It is also mentioned from deep water off N.E. Taiwan. The new sub-species is also related to *Murex elliscrossi*.

In Volume 8, pp. 15-17, of the *Bull. Malacol. R.O.C.*, is the description of *Asprella pseudorbigny* Röckel and Lan, 1981. This species is related to other *Conus* species -- *Asprella orbigny*, *Endemnoconus ichinoseana*, and *Conasprella comatosa*. The type locality is off N.E. Taiwan and also known from the central Philippines.

Fifteen new species and two new sub-species of *Conus* were described in *Publicacoes Ocasionais Da Sociedade Portuguesa De Malacologia* (#1, 1982). The newly described

*Conus* include: *C. episcopatus* da Motta (type locality is Mahe Island, Seychelles); *C. auratinus* da Motta (Fakarava Is., Tuamotu Archipelago); *C. quasimagnificus* da Motta (Khor Fakkau, Gulf of Oman); *C. textile neovicarius* da Motta (Share-el-Shech, Gulf of Aqeba); *C. textile dahlakensis* da Motta (Kahlak Archipelago, off Massawa in Red Sea); *C. rubropennatus* da Motta (Reunion Is., Indian Ocean); *C. patonganus* da Motta (Raya Is., Phuket, Thailand); *C. skinneri* da Motta (Nusa Tenggara, Bali, Indonesia); *C. krabiensis* da Motta (Raya Is., Phuket, Thailand); *C. kantanganus* da Motta (Kantang, Thailand); *C. samiae* da Motta (Balut Is., Philippines); *C. fulvobullatus* da Motta (trawled off east coast of Malaysia); *C. gabelishi* da Motta & Ninomiya (Great Australian Bight -- Esperance/Albany area); *C. orri* Ninomiya & da Motta (Solifor Point, Bojol Is., Gambia, West Africa); *C. gracianus* da Motta & Blöcher (Grand Recif, Tulear, Madagascar); *C. lenavati* da Motta & Röckel (Punta Engaño, Cebu, Philippines); and *C. garciai* da Motta (Punta Patuca, Honduras, to Caratasca Key-Caribbean).

In two concurrent issues of *Carfel Philippine Shell News* 5 new species of *Conus* are described from the Philippines. Volume 4, Number 2 (March-April 1982) has the description of *C. rogmartini* da Motta. The author states that he can find no equal to this species in its highly intricate sculptural form and unusual coloration. The type locality is Balut Island. It is named for Roger Martin of Cebu.

Volume 4, Number 3 (May-June 1982) of *C.P.S.N.* has the descriptions of four new *Conus* by A.J. da Motta and R. Martin. *C. cebuganus* is compared with *C. australis* and *C. laterculatus*. The type locality is Visayan Sea, between Malapascua Is., and Bantayan Is. and northward in 20-40 fathoms. *C. leobrera* is compared with *C. alabaster*, *C. mucronatus*, *C. arcuatus*, and *C. subulatus*. Its type locality is the same as the previous species. It was named for Fely & Charlie Leobrera. *C. lapulapui* named for the national Filipino hero, Lapu-Lapu, is compared with *C. memiae*, *C. eugrammatus* and *C. wakayamaiensis*. The type locality is as before. *C. pseudokimioi* is compared with the very similar *C. kimioi* and juvenile specimens of *C. hirasei*, with which Habe & Ito previously compared *C. kimioi*. The type locality is Siquijor Island, Mindanao Sea. *C. pseudokimioi* is described as a subspecies of *C. kimioi*.

A new *Oliva* from the Sulu Sea, Philippines was described in *La Conchiglia* (The Shell) No. 158-159/May-June 1982 by A.J. da Motta. *Oliva vicdani* is compared to *O. multiplicata*, *O. australis*, *O. richerti* and young specimens of *O. flammulata*. Furthermore, da Motta states that its rosy-vermillion coloration cannot be matched with any other known species. It is named for noted shell collector/dealer, Victor Dan. *O. vicdani* is only known from its type locality near Zamboanga, Mindanao Island, in the Sulu Sea.

"A New *Lyria* from the Philippines" describes *Lyria* (*Lyria*) *dondani* as a new species, in *La Conchiglia* - No. 160-161/July-August 1982. Authors M. Angioy & G. Biraghi received specimens of this shell from Victor Dan, who requested that the species be named after his brother, Donald Dan of Chicago. It is compared with other recently named *Lyria* from the western Pacific -- *L. vicdani*, *L. grangei*, and its closest relative, *L. habe*. The type locality is generally the Gulf of Davao, in approximately 300 meters of water.

(continued on page 10)



Figs. 1-17, 1) *Conus pseudokimioi* da Motta & Martin, 1982; 2) *Conus cebuganus* da Motta & Martin, 1982; 3) *Conus lapulapui* da Motta & Martin, 1982; 4) *Conus leobrerai* da Motta & Martin, 1982; 5) *Conus samiae* da Motta, 1982 - Holotype pictured, 57.5mm; 6) *Conus gabelishi* da Motta & Ninomiya, 1982 - paratype; 7) *Phyllonotus superbus problematicum* Lan, 1981 - Holotype, 77.8mm; 8) *Asprella pseudorbigny* Röckel & Lan, 1981 - Holotype; 9) *Conus episcopatus* da Motta, 1982 - Holotype, 82mm; 10) *Conus garciai* da Motta, 1982 - Holotype, 59mm; 11) *Conus krabiensis* da Motta, 1982 - Holotype, 45mm; 12) *Lyria (Lyria) dondani* Angioy & Biraghi, 1982 - Holotype, 64mm; 13) *Conus textile dahlakensis* da Motta, 1982 - Holotype, 87mm; 14) *Oliva vicdani* da Motta, 1982 - Holotype, 27.3mm; 15) *Bullia rogersi* Smythe, 1981 - Holotype, 20.5mm; 16) *Fusinus (Sinistralia) gallagheri* Smythe & Chatfield, 1981 - Paratype, 19.6mm; 17) *Conus rogmartini* da Motta, 1982. [photos from the respective publications, and reproduced here by the author].

## CALIFORNIA SEASHELLS PART I: *CERATOSTOMA* (MURICIDAE)

CHARLES GLASS & ROBERT FOSTER

In this series of articles we would like to acquaint you with the more interesting shells to be found along the coast of California, particularly in intertidal and moderately shallow depths, and briefly to describe their habitats. Our information is derived chiefly from the experiences of over 250 SCUBA dives in California waters and observations of a large, salt-water, invertebrate aquarium over a period of several months.

In general, the cool waters of California do not yield the great variety or beauty of form and color that can be found in warmer waters. There are several exceptions, however. Rather surprisingly, we have one representative each of four genera which are usually associated with more tropical waters, namely *Cypraea*, *Conus*, *Mitra* and *Latiaxis*. And for beauty of form some of the California species of the family Muricidae vie favorably with the most outstanding species of this group from anywhere in the world.

The number of species of Muricidae, or the Murex Family, to be counted from California depends upon how liberal or conservative your taxonomic philosophy is, and which authority you choose to follow, but there are over fifty recognizable entities occurring in this region, whether you choose to regard them as species, subspecies or forms. They range from interesting to exceptionally beautiful.

Vying for the distinction of most elegantly beautiful of California Murex shells is unquestionably *Ceratostoma foliatum* (Gmelin, 1791). In fact, the only thing that isn't beautiful about this exquisite species is its prosaic common name, "The Leafy Hornmouth", a literal translation of the Latin name! The genus *Ceratostoma* was proposed by Herrmannsen in 1846 for the species, *Murex nuttalli* Conrad, 1837. The generic name refers to a long, stout tooth or horn on the outer marginal lip of the aperture, "cerato" meaning "horn" and "stoma", "opening" or "mouth". *Murex foliatus* and other species were later added to the genus. The use of this tooth is interesting. In the aquarium we have observed "Hornmouth" shells patiently waiting outside a mussel or other bivalve, like a cat outside a rodent hole, its horn or tooth poised at the aperture, and as soon as the bivalve opens a bit, the "Hornmouth" shoves its horn into the aperture, like a persistent salesman with his foot in the door, preventing the bivalve from closing again, and then proceeds to extend itself into the other shell and devour its prey.

The range of *C. foliatum* is given from Santa Cruz Island in

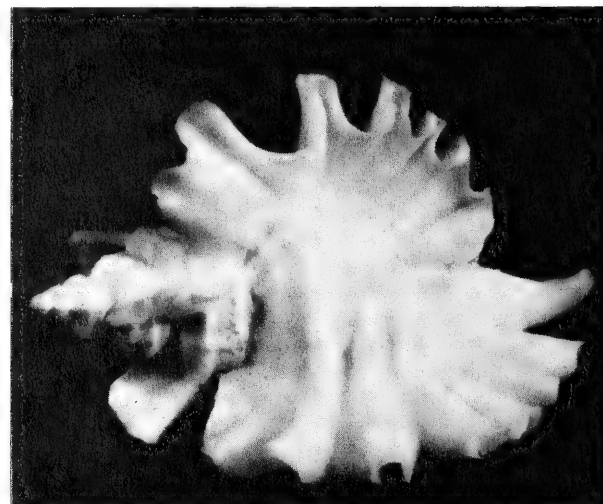
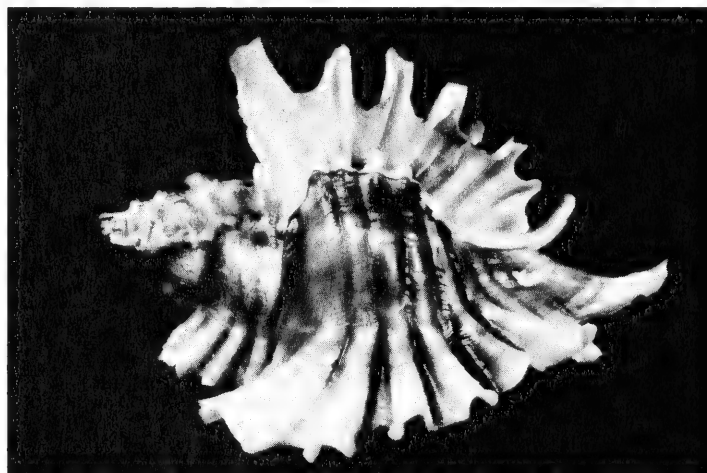
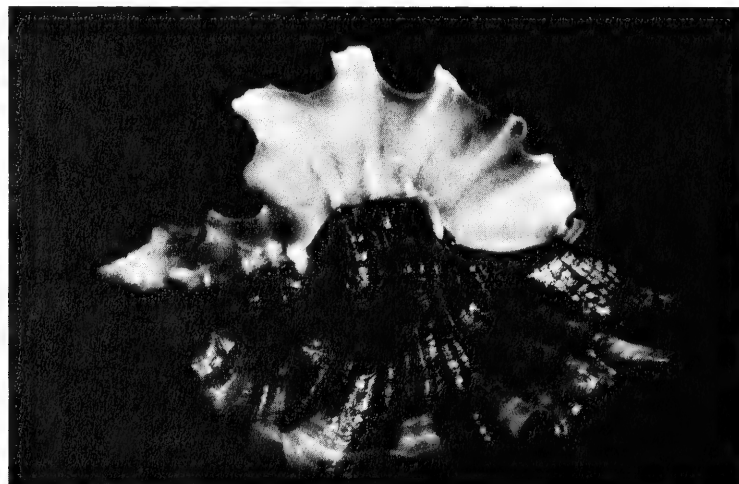
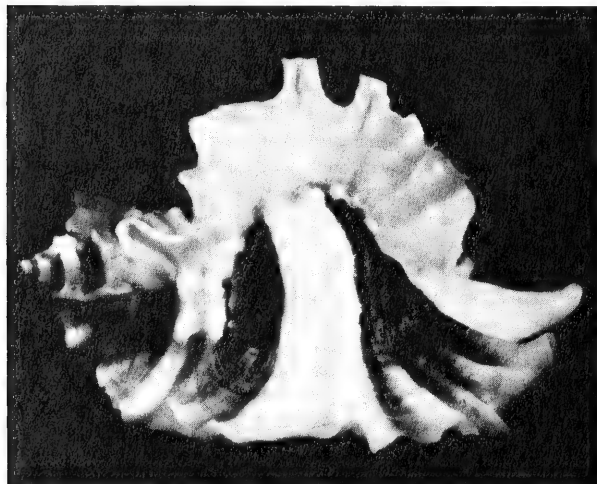


Fig. 1. A white form of *Ceratostoma foliatum* from San Miguel Island, Santa Barbara Channel Islands. Fig. 2 (below). *C. burnetti* from Korea, a close relative of *C. foliatum*. Photos: The Abbey, Specimen Shells.



moderately deep water (25 to 70 meters), to shallow, subtidal depths in Alaska. A species which is remarkably similar in appearance, *C. burnetti*, occurs in Japan, Korea and the eastern U.S.S.R. and it is tempting to speculate that at one time they may have represented the extreme forms of one variable, wide-spread species. The maximum size of the species, *C. foliatum*, is given as 110 mm or a bit over 4 inches,

Fig. 3. A striped form (below, left) of *C. foliatum* and (below, right) a dark form, both from San Miguel Island. The dark color is a beautiful, rich purplish brown.





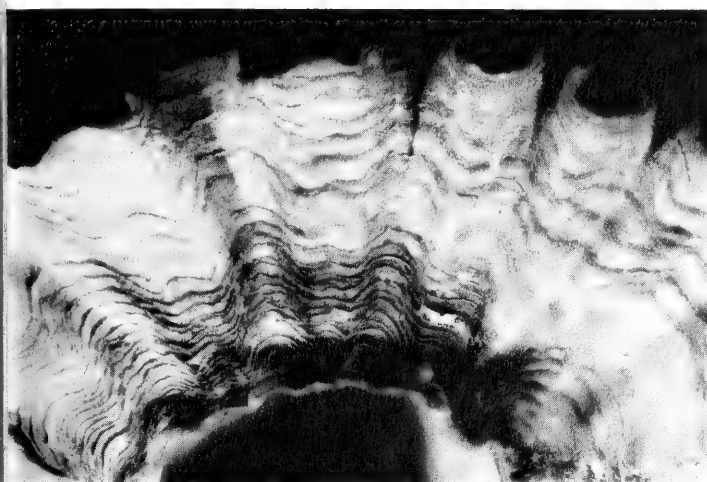


Fig. 4. Detail of the laminations on the underside of the varix wing of *C. foliatum*. Each of the approximately 25 layers is laid down separately and the whole process takes about 5 weeks — after the initial layer of the varix is produced!

but the finest specimens are rarely over 80 mm. The southerly form from deeper water is far more delicately beautiful with exaggerated varical wings than its stubbier, northern counterpart. The shell color is basically pure, alabaster white but quite variable, often with yellowish brown or rich purplish to reddish brown shading, banding or mottling. We have found one specimen with egg-yoke yellow on the body whorl! There are corded bands on the body whorl which, together with the thin, broad, flaring, undulate wings give this species its exceptional quality.

Egg laying has been reported for *C. foliatum* in Washington state in late February and early March. We have observed egg-laying clusters or "pods" of several dozen shells each off Santa Barbara, California in early January. This was in 45 feet (about 15 meters), shallower than one is supposed to find this species in the southern portion of its range, in crevices of rocky reefs off the southeastern corner of San Miguel Island, one of the areas where we have found our most handsome specimens. We have also found specimens in only 22 feet of water at Cuyler Harbor, San Miguel Island, in about 65 feet of water on Talcott Shoals off the northwestern corner of Santa Rosa Island, near Bee Rock off the southwestern end of that island and even on low reefs in about 80 feet of water off the Santa Barbara harbor. We have heard reports of *C. foliatum* from Begg Rock off San Nicolas Island and even near Punta Banda, Baja California which, if accurate, would be a con-

siderable extension of the range. Shells we have collected on the breakwater of Monterrey Harbor are generally considerably smaller and could be mistaken for *C. nuttalli*, also they were mostly an orangey or yellowish brown.

Freshly collected specimens are typically heavily encrusted and require a minimum of an hour or so of hard work to clean. We have occasionally collected specimens which were in the process of growing a new varix. These we have put in the aquarium for them to complete their growth cycle. They can add up to a centimeter of shell to the body whorl in 2 or

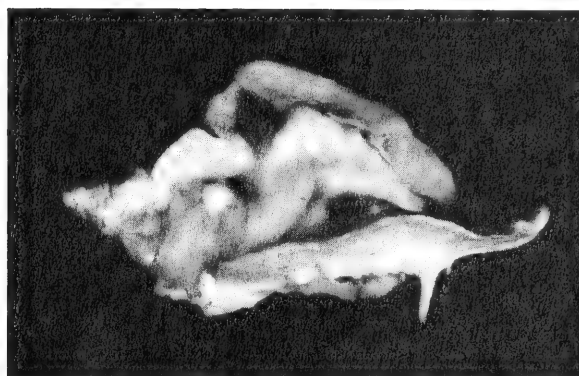


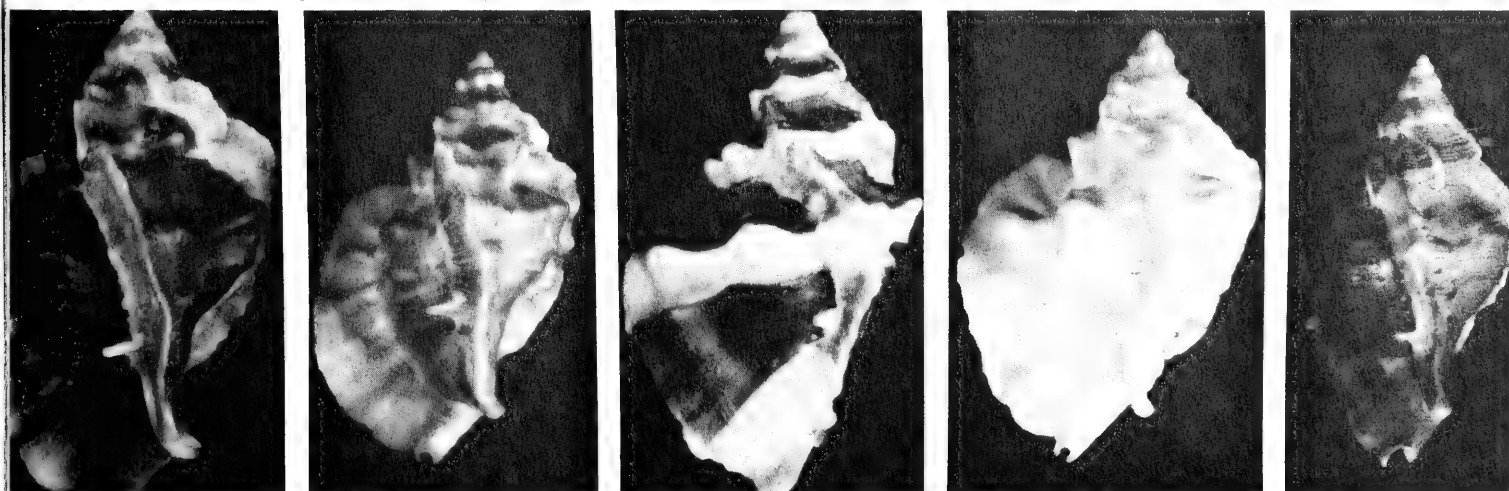
Fig. 6. A side view of *C. nuttalli* showing the characteristic horn or tooth. The shells pictured in fig. 5 show the obsolete teeth from previous varices.

3 days, but laying down the dozens of layers of laminations that comprise the leafy varix wing has taken several weeks during which time the shell stays virtually motionless, half buried in the sand or gravel and clinging to rock or glass. The dissolving of the old varical wing is also a relatively slow process (as is the final touch of finishing the aperture and building up the horn or tooth). Many of us don't stop to think that for a winged shell such as the Murex, in order to build a new varix whorl, the animal must also dissolve the old one which now stands in its way!

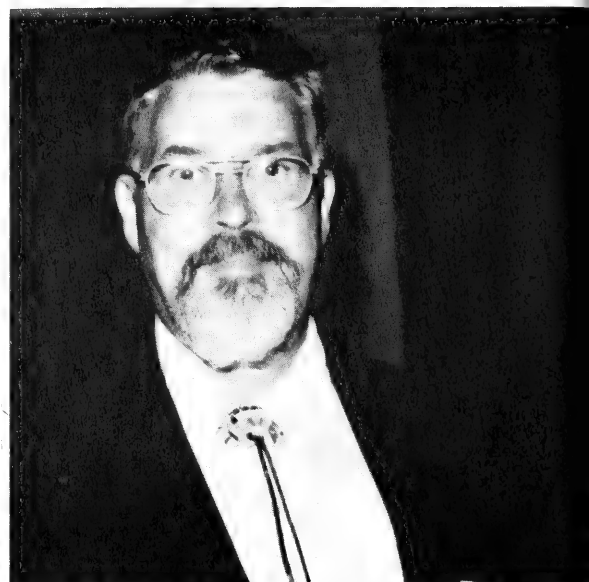
The other species of the genus represented in California waters is "Nuttall's Hornmouth" or *Ceratostoma nuttalli* (Conrad, 1837). It fares rather poorly in comparison with its elegant cousin, but exceptional specimens may occasionally be found for which no apologies need be made! It is a smaller shell than *C. foliatum*, the maximum size given as 70 mm, (but 60 mm is an exceptionally large shell!) and the winglike extensions of the varices are less exaggerated. There are various distinctive forms which have been named but they are rarely recognized taxonomically and all forms may be found

(continued on page 10)

Fig. 5. Five forms of *Ceratostoma nuttalli*: (from left) the "typical" dark brown and honey-tan forms, the banded *albofasciatus* form, the pure white *albescens* form and the wingless form (Sowerby's *M. monoceros*). Photos from The Abbey, Specimen Shells.







### SANIBEL SOJOURN: *cont. from page 1*

colorful families as the miters, other talks, such as Bea Winner's on gastropod egg masses demonstrated how advanced and interesting a biological subject could be researched by an amateur. An average attendance of over 150 members at each talk attested to the success of the programs.

The latest in new shells coming from far-away oceans and new books on conchology were on display by dozens of dealers. The Dealers Bourse was a brilliant display of specimens, shellcraft, shell paintings and shell books spread through five conference rooms. Some table tops resembled museum displays, and many members enjoyed seeing such an array of interesting specimens, outstanding books and works of shell art.

What conchologist could come to Sanibel and not roam the beaches and pick up shells? Planned field trips seemed unnecessary; and one trip by boat to the Pine Island mud flats produced more rain and mud than shells. But diversions were offered by a guided tour through the Ding Darling Sanctuary, a conservation refuge named after the well-known cartoonist. Equally interesting was a lecture on the Sanibel-based save-the-turtle operation known as "Caretta Research".

Half the fun of a convention are the opportunities to renew old friendships and make new friends. A lovely welcome cocktail party, hosted by the Sanibel-Captiva and Sarasota shell clubs and a sumptuous banquet given the last day broke the ice for many new members. It seems that everyone pitched in to make the meeting a grand success. Sue Stephens and Anne Joffe of Sanibel, together with our President, Ruth Greenberg, guided, cajoled and humoured the participants of the convention through the complex of activities. The usual late registrants, unexpected banquet guests and misplaced projectors could not upset the well-planned and beautifully executed meetings. Marty Lerner and Al Deynzer engineered the exciting auction that netted the C.O.A. over \$2,000.00. Mili Backus, local publicity chief, arranged TV and newspaper coverage. From the Hertwecks and the Palm Ridge Florists came banquet favors and table arrangements.

The meetings were a grand success and a pleasure to attend. Florida shellers accounted for most of the record attendance, but collectors from Brazil, Canada and Hawaii came too. The C.O.A. is growing and maturing. It has a useful place in the shell world and will contribute to the health and enjoyment of our hobby of conchology.

Fig. 3. (left) Convention chairperson Sue Stephens opens the convention with some announcements. Over 225 people registered for the convention—the largest turn out at the annual event. Fig. 4. (right) C.O.A.'s new president to start its second decade is Richard A. Jones, of Cleveland, Ohio.



Fig. 5. Convention chairperson Sue Stephens addresses the banquet. The guest speaker was Dr. R. Tucker Abbott.

Fig. 6. Dr. R. Tucker Abbott shows C.O.A.'s youngest member, 2 year old Daniel Sigler the proper position to collect beach drift!





Fig. 7. John Lewis of Lisle, Illinois places his bid on one of over 200 lots of shells auctioned off during the auction. A standing room-only crowd attended the event. Fig. 8. (right) Local television news covered the auction, of which a short feature appeared on their late-night news that evening.

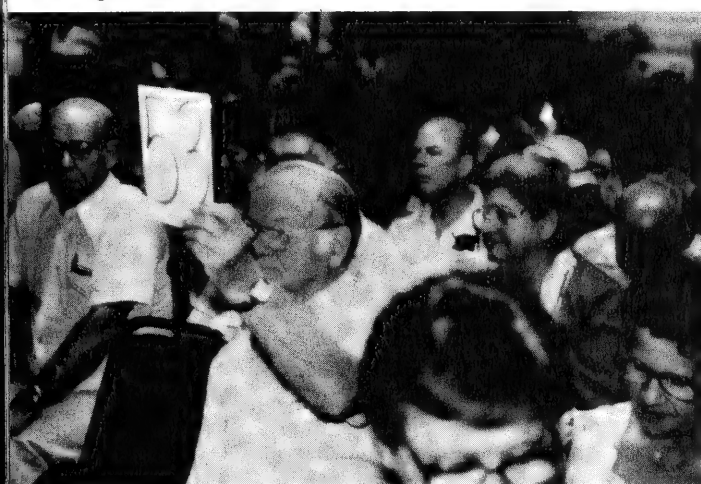
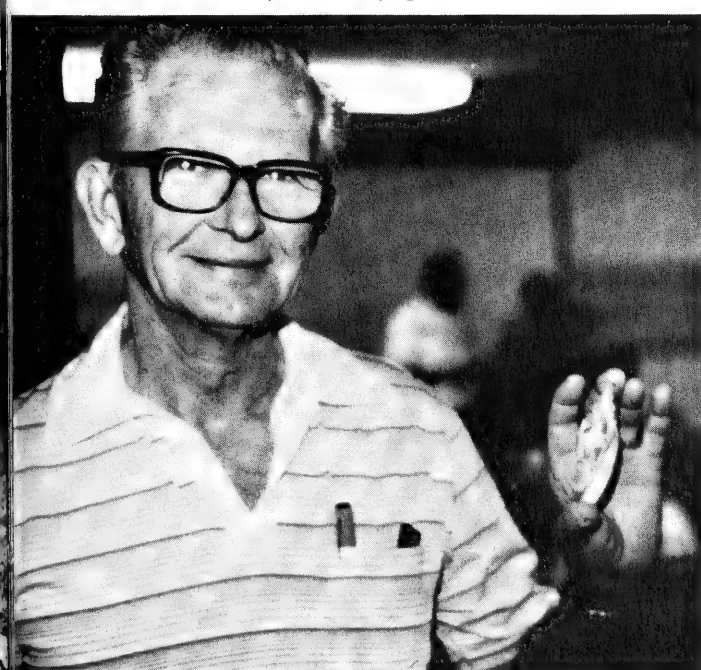


Fig. 9. Auctioneer Martin Lerner along with Sol Weiss from New York moved the auction along at a fast pace. The auction was dutifully organized by Al & Bev Deynzer of Sanibel. Fig. 10 (below) Donald Young of Treasure Is., Florida won the raffle shell at the auction — a beautiful *Mitra helenae*, donated by The Abbey Specimen Shells.



## AUCTION NOTES -- 1982

The specimen shells auctioned at the Tenth Anniversary Meeting of the C.O.A., Sundial Beach Hotel, Sanibel Island, Florida were donated by members of the C.O.A. and by many shell dealers located throughout the USA and overseas. We urge our members to patronize these dealers and we express our thanks and appreciation to all members and dealers who have been so generous in their contributions to make our 1982 auction the most successful to date.

### DEALERS:

#### The Abbey, Specimen Shells

Box 3010, Santa Barbara, CA 93105

#### Brooksmans - H.M. Cater & Sons

PO Box 49, Booval. 4304, Queensland, Australia

#### Easlands Shell Cabinets

5803 Fernhill Drive, Orlando, FL 32808

#### Cypraea Nut Hut

Box 313, Westport Pt., MA 02791

#### Richard Goldberg

49-77 Fresh Meadow Ln., Flushing, NY 11365

#### Richard M. Kurz, Inc.

1575 North 118th St., Wauwatosa, WI 53226

#### Elsie Malone

2422 Periwinkle Way, Sanibel, FL 33957

#### Morrison Galleries

PO Box 15011, Sarasota, FL 33579

#### Shamaron Shells

229 West 2nd St., Deer Park, NY 11729

#### The Shell Factory

PO Box B-B, Ft. Myers, FL 33902

#### Edward T. Schelling

P.O. Box 68, Shalimar, FL 32579

#### Shelloak

129 Blackjack St., Forrest Hills, Brookville, FL 33512

#### Showcase Shells

1614 Periwinkle Way, Sanibel, FL 33957

#### Tidepool Gallery

22762 Pacific Coast Hwy., Malibu, CA 90265

### INDIVIDUALS:

Etta Green, Ft. Myers, FL

Kermit Pearson, Cape Coral, FL

Bernard Pipher, Tekamah, NE

Olive Schoenberg, Hawaii

Sue Stephens, Sanibel, FL

Jay Tripp, Pittsburgh, PA

LaVerne Weddle, Ft. Myers, FL

PRESIDENT'S MESSAGE: *cont. from page 2*

awards could and should we become involved with? What can the C.O.A. do to make shell collecting a better hobby? Do you have ideas? Let us hear about them. The C.O.A. is your organization! Your ideas will help it grow.

Good shelling!  
Dick Jones, President

## MESSAGE FROM YOUR OUTGOING PRESIDENT

As Past-President of the C.O.A., I want to thank everyone on the executive board for their ever-ready assistance, advice and moral support, given during a year of difficult decisions.

It was a long way from San Francisco, California to Sanibel, Florida - especially since we tried to go by way of Cozumel, Mexico! To those who were disappointed that we were unable to meet in Cozumel, I want to say, don't give up hope - someday the C.O.A. will be able to put together a super-duper, tropical island, shell-collecting convention. . . . when we find a tropical island with an active shell club ready to act as host! To those who joined us in Sanibel for the biggest and best convention we have ever had, I want to say thanks for your enthusiasm and participation - and a special thank you to all the Florida members whose hospitality made 1982 a memorable year.

Ruth Greenberg

CALIFORNIA SEASHELLS: *cont. from page 7*

growing together on the same reef. In 1841 Sowerby described a *Murex monoceros* which is now merely accepted as an interesting form without the varical wings. In 1919 Dall named the banded brown and white form *albofasciatus* and the pure white form *albescens*. The "typical" form is tan or honey-brown to dark brown.

The range for *C. nuttalli* extends from Point Conception to Santa Maria Bay, Baja California. We have generally found it in shallow depths, from 10 to about 50 feet, near Santa Cruz, Catalina and San Clemente Islands and near the coast near Santa Barbara and on the breakwaters of the L.A. Harbor, almost always on rocks.

SHELLS IN PRINT: *cont. from page 4*

Some new books to be looked to in the future are, Abbott & Dance's Compendium of Seashells (to contain over 4,000 species of marine shells, illustrated in color -- due out sometime in the fall according to Dr. Abbott); word from Brian Parkinson in Papua New Guinea is that he has finished a book on land shells -- no particular details, but I'm sure land shell enthusiasts will eagerly await its arrival; on the topic on land shells -- Dr. Abbott will have a new book out in the future called Kingdom of the Land Shell, based on the format of his Kingdom of the Seashell. Although not particularly an identification guide, Abbott says it will give a complete introduction to the terrestrials. Dr. Pat Burgess' updated version of The Living Cowries will contain photographs of the animal, something never before compiled in one book. With the great number of revisions in this family since the first edition of his Living Cowries, I'm sure this will stand as one of the more important shell books published in the 1980's. Shells of the Philippines is soon to be published by Carfel in the Philippines. The book will feature many of the newly named Philippine species, plus other fantastic & rare shells according to a note in the Carfel Philippine Shell News.

## WHO'S WHO IN THE C.O.A.

JAY TRIPP

C.O.A. Secretary/Historian

The "tree" grew in Brooklyn and so did Dottie Janowsky and her husband Bob. They married and will certainly live happily ever after, since they became one of the youngest rare shell collectors-dealers in the world, with their Mal de Mer Enterprises.

Dorothy Janowsky, the first Secretary-Treasurer of the C.O.A., is a lady of many interests -- seashells, cats, turtles, blooming plants, opera, ballet, and primitive art -- not necessarily in that order.

Dottie matriculated at Brooklyn and Hunter Colleges in New York City. Before the onslaught of invertebrate *mal de mer*, she developed a career as a buyer for two retail stores; Saks, and Abraham & Strauss.

Next, she became a "shopper" for shells at Veronica Johns' Seashells Unlimited; from then until now the prognosis for her seashell sickness is "incurable"!

Mal de Mer Enterprises has recently become a full-time way of life for the family Janowsky, and they have moved their base of operations to West Hempstead, N.Y. They are so motivated toward beauty and flawlessness in all specimens they handle, that a great percentage of incoming shells are returned to their source as being sub-Janowsky standard.

One of the recently-described *Murex* beginning to appear on the market is a small pink and gold gem, *Favartia dorothyae* Emerson & D'Attilio ("Six New Living Species of Muricacean Gastropods", The Nautilus, Jan. 1979, Vol. 93, No. 1). The holotype is from the Janowsky collection and is named in honor of Dottie.

"If anything, our love for shells has increased over the years, but I can enjoy them as temporary--/rather than permanent--/residents of our cabinets! My collection now consists of anything that particularly appeals to me because of color or beauty of form, and is constantly changing, as I add new or give others away."

We further quote Dottie, "I'm delighted at the growth of the C.O.A. over the past years -- it has come a long way from the small group of us who began it. I see an even greater growth potential in the future as more and more people become captivated by the beauty and fascination of shells".

The C.O.A. will continue to grow, and it will be the direct result of enthusiastic, willing, long-term supporters such as Dottie and Bob Janowsky.

### OF SEA AND SHORE

There was much speculation at the C.O.A. Convention concerning the fate of *Of Sea and Shore*. We spoke to Tom Rice, editor and publisher and he assures us that the next issue will be out shortly and, despite the inevitable and regrettable gap in that popular publication, he hopes soon to catch up with the back issues and return to the regular publishing schedule.

### SHELL SHOWS

The Coastal Bend Shell Club will be host to the Texas State Shell Show this year. It will be held on October 30th and 31 at the Bayfront Plaza Convention Center in Corpus Christi, Texas. Judges will be Dr. R. Tucker Abbott, Myra Taylor and Dr. Jean Andrews. In addition to the C.O.A. Grand Trophy, the Texas, Shell of the Show, Self-collected Shell of the Show and du Pont trophies will be awarded. For additional information write Peter Vaky, 3307 San Antonio Street, Corpus Christi, TX 78411.

Show committees for various organizations are invited to send us information about their local shell shows.





# CONCHOLOGISTS OF AMERICA BULLETIN

VOLUME 10, No. 4, DECEMBER 1982 (28)

## SHELLS IN PRINT

RICHARD L. GOLDBERG

### LATIAxis CATALOG & ILLUSTRATED CHECK LIST OF CORALLIOPHILIDAE FAMILY by Phillip W. Clover

The *Coralliophilidae* or coral shells is one of the more confusing families taxonomically, but despite this confusion has been a favorite with collectors. So many diverse scientific publications have dealt with members of the family over the years that tracking them down would be a full time job. Mr. Clover, feeling the need to compile all of this information into one neat compact publication, undertook such a venture. The result is the *Latiaxis Catalog*. Clover states in his introduction that in no way is this to be considered a "monograph" of the family, but an illustrated catalog based upon D'Attilio's *A Catalogue of Coralliophilidae* published in the San Diego Shell Club's newsletter, *The Festivus* (Vol. 10 - October 1978).

Clover has illustrated in black & white all of D'Attilio's names with either original photographs, or from illustrations from the original descriptions. He has also taken a "middle-of-the-road" stance relative to nomenclature, and has listed the original designated genera, even though they might be invalid or not even belonging to the Family *Coralliophilidae*; but the latest one in use for the species. Also listed are localities, sizes, and a few short notes on either color, sculpture, synonymy, similar species, etc. The species that without a doubt fall into synonymy, are not illustrated and referenced to their valid names.

*Latiaxis Catalog* is useful in that it has updated Mr. D'Attilio's listing, and is a handy reference when trying to place a name on a coral shell. Unfortunately the user must make up his or her own mind as to the validity of the listed generic name. None-the-less, I highly recommend *Latiaxis Catalog* as a first reference when identifying the *Coralliophilidae*. The catalog costs \$10.00, and is available through Mr. Clover, P.O. Box 83, Glen Ellen, CA, 95442. As an additional note: for those who do not have the D'Attilio paper, I would suggest it as a companion reference to *Latiaxis Catalog*, as it lists where to reference the original descriptions. Clover has listed references only for species not included in D'Attilio's listing. You can write to San Diego Shell Club, 3883 Blackburn Ave., San Diego, CA, 92111, to inquire about costs and availability.

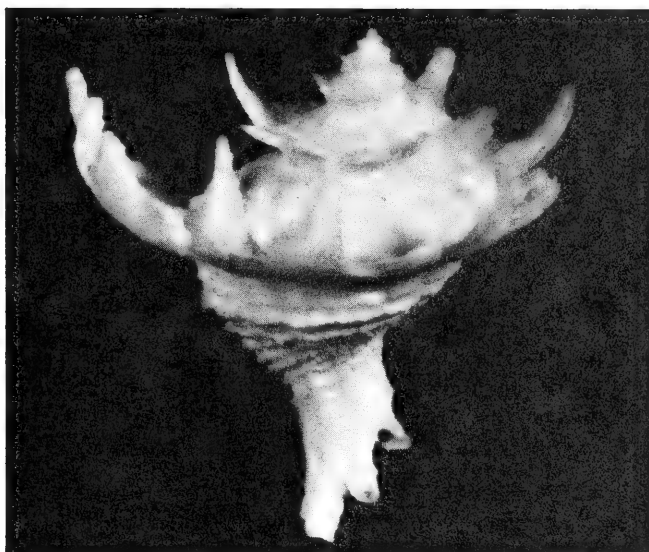
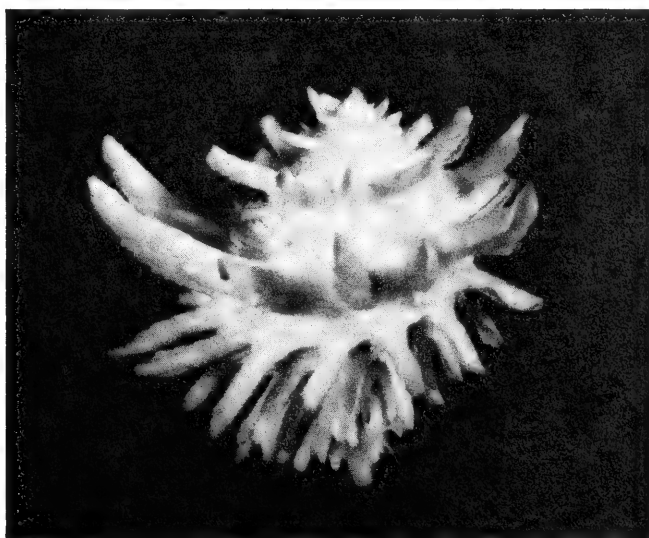


Fig. 1. *Latiaxis santacruzensis* Emerson & D'Attilio, a 44 mm long specimen trawled in 200 m on 5/81, Santa Cruz, Galapagos.

Fig. 2. (below) *Latiaxis celinamarumai* Kosuge, a 55 mm long specimen taken in gill nets in deep water off Balut, Philippines. Shells from the Glass & Foster collection.







In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

#### OFFICERS

**President:** Richard H. Jones;

1432 Dorsh Road, South Euclid, Ohio 44121

**Vice-President:** Richard Forbush;

1104 Sklar Dr. E., Venice, Florida 33595

**Secretary/Historian:** Mrs. Jay Tripp

212 Connecting Road, Pittsburgh, Pennsylvania 15228

**Treasurer:** Clair Stahl

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**Membership Chairperson:** Phyllis Pipher

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**Trophy Chairperson:** Anne Joffe

1163 Kittiwake Circle, Sanibel Island, Florida 33957

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Box 3010, Santa Barbara, California 93105

**Managing Editor:** Robert Foster

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#### MEMBERSHIP DUES

INDIVIDUAL (per year) \$7.50; FAMILY (receiving one Bulletin) \$10.00; OVERSEAS (Air Mail Postage) \$10.00; Send check or money order to the TREASURER (address above); \*\*\*Any other membership problems should be addressed to the MEMBERSHIP CHAIRPERSON, Phyllis Pipher, 1116 N Street, Tekamah, Nebraska, 68061.

## REPORT OF C.O.A. BUSINESS MEETING

The Tenth Annual business meeting of Conchologists of America was called to order by President Ruth Greenberg on July 17, 1982, Sundial Beach & Tennis Club, Sanibel Island, Florida at 1:30 P.M.

A motion was presented and passed by the membership to forego the reading of the Minutes of last years' meeting.

The Treasurers' report was read by Treasurer Clair Stahl:

Monetary Assets as of September 1, 1981 - \$2,452.93

Monetary Assets as of July 1, 1982 - \$4,115.93

The Shell Auction of September, 1981, Myaka Hotel, San Francisco, Calif. netted \$2,150.50.

The Shell Auction, July, 1982, Sundial Beach & Tennis Club, Sanibel, Fla. netted \$2,663.00

The Treasurers' report was accepted by the Auditing Committee, consisting of Richard Jones, Charles Hertwick, et al.

The Membership Committee report was presented by Vice-President Bernard Pipher. He reported our membership is currently near 700.

The Trophy Committee report was presented by R. Tucker Abbott. A total of 21 trophies were given this year -- one each in London,

Florida, Texas, Oregon, Indiana, Long Island, etc. Dr. Abbott voiced an appeal for a Florida member to assist him in giving out trophy booklets.

The Nominating Committee, consisting of Bernard Pipher, Margaret Teskey, and Stewart Armington, presented their slate for the year 1982-83:

President - Richard Jones

Vice-President - Richard Forbush

Secretary - Jay Tripp

Treasurer - Clair Stahl

Dr. R. Tucker Abbott moved that the nominations be closed and the presented slate accepted unanimously. Membership so voted.

President Ruth Greenberg discussed the recent problems in publishing our quarterly Bulletin. The current editor, Gary Rosenberg, is unable to continue. The new editors were announced as being Robert Foster and Charles Glass of Santa Barbara, California, who are greatly experienced in publishing this type of organ. Dr. R. Tucker Abbott will head our Publications Committee.

A suggestion from the floor was made to publish a current roster of members. This is in the process of being executed.

President Ruth Greenberg opened a discussion in reaccepting advertising ads in future issues of the Bulletin. She asked for authorization from the membership. A general discussion ensued regarding not allowing the ads to cut into article space, and also that the integrity of the advertisers be checked out. Peggy Williams moved that we allow advertising, and the motion carried.

(cont. on page 8)

## WHO'S WHO IN C.O.A.

Our current president, Dick Jones, is a charter member and past-president of the Cleveland (Ohio) Shell Club. He's been an active member of the C.O.A. for a number of years.

Dick is employed as a Process Consultant for Standard Oil Co. (Sohio). For the last 38 years, he has been a Process Engineer designing refineries and chemical plants, in addition to doing design work on the Trans-Alaska Oil and the proposed Alaskan Gas pipelines.

A true "mid-westerner", Dick was born in Highland Park, Michigan, a Detroit suburb, and graduated from Michigan State University. His manner emphasizes this in his relaxed, "laid-back" personality and his wry sense of humor.

Dick and his wife Bobbie (Roberta) have three children: two married daughters and a son at Northern Arizona University in Flagstaff.

Since becoming enamored of seashells 15 years ago, Dick and Bobbie have visited all 50 states, Canada, Mexico and the United Kingdom, and have travelled to such diverse areas as the Bahamas, U.S. and British Virgin Islands, Mexico, Gulf of California, Hawaii and the Florida Gulf coast and Keys, Texas, and here and there in our Atlantic coastal states, seeking shells.

The Jones shell collection consists of mostly self-collected western Atlantic specimens, along with a current emphasis on the family Cypraeidae. Dick has an especial interest in morphological variants, particularly dwarf *Cypraea*. His love of the cowries is followed distantly by *Strombus* and *Oliva*. Dick compiles and publishes a list of minimum and maximum *Cypraea* sizes from time to time as data becomes available. He welcomes any and all aid in this endeavor.

Dick's back-up hobby is stamp collecting.

Our President feels that the C.O.A. definitely has something to offer to all levels of shell collecting and further believes the organization can contribute greatly to the science of malacology.

JAY TRIPP

C.O.A. Secretary/Historian



Fig. 1. *Homalocantha anomaliae* Kosuge, a remarkable, relatively new species reminiscent of an *H. anatomica* made of wax and pulled and twisted almost out of recognition! This 50 mm specimen was taken in deep water by gill nets off Panglao, Bohol, Philippines.

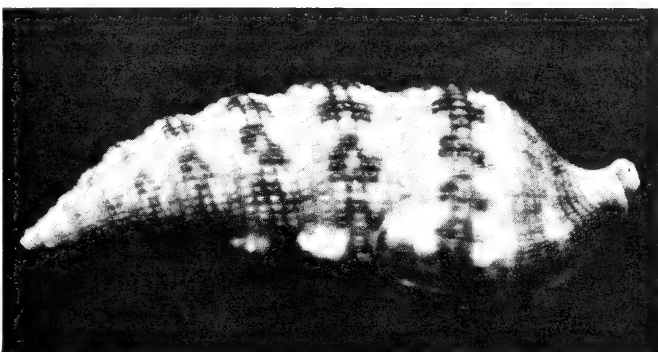


Fig. 3. *Colubraria tortuosa* Reeve, like a prototype for the S.S.T., this bizarre, 47.5 mm shell was found in the same general area as the morum, but in only 30 ft.

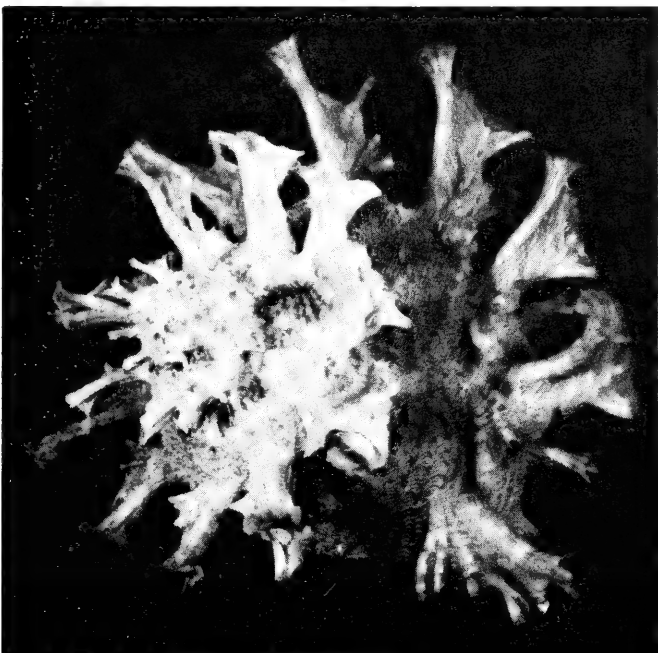


Fig. 2. *Morum macdonaldi* Emerson & D'Attilio, the newest and tiniest of the morums; this 17.3 mm shell was taken live by Jeanette Hammon in February of this year crawling in the open at night in 60 ft., oceanside of West Reef, west of Kwajalein, Kwajalein Atoll, Marshall Islands.

## SHELLS FOR THE AMATEUR

C. GLASS & R. FOSTER

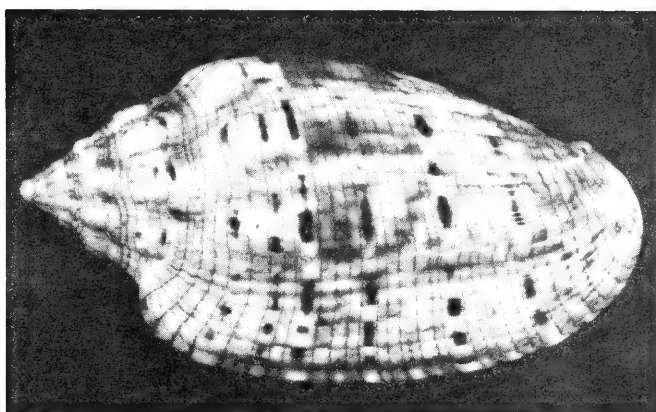
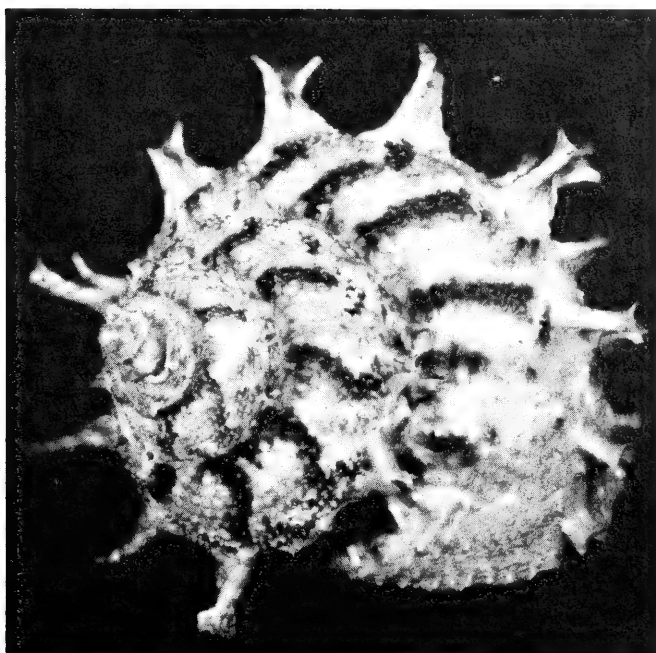


Fig. 4. *Falsilyria kotorai* Petuch, a handsome new species from off the coast of northeast Honduras, this 83.4 mm specimen was trawled in 36 m. It is very reminiscent of Petuch's *F. morrisoni* and *Voluta demarcoi*.

Figs. 5 & 6. *Astraea girgyllus* Reeve. The exceedingly ornate, 63.5 mm specimen pictured below left (fig. 5) was collected in deep water off Davao, Mindanao in the Philippines. The more typical, 59.3 mm specimen pictured below, right (fig. 6) was taken in tangle nets in deep water off Bohol.



## LITTLE WINDOWS INTO WONDERLAND

DEBORAH G. WALTON  
New Zealand

On the southwest coast of New Zealand's North Island there is an exposed piece of rocky coastline called Pukerua Bay. It was a cold and wintery day that I chose to go exploring amongst the rocks for some shells for my collection.

The intertidal zone at Pukerua is seldom left fully dry as the tide retreats and tidal pools remain containing tiny communities of plants and animals. I spent little time looking for mollusks in the highly saline pools of the littoral fringe; these pools show the greatest of diurnal extremes as they are met by the tide only a few times each month. Subsequently the life existing in these pools is not truly marine. Further down the shore within the mid-littoral zone are many pools containing marine animals and plants that thrive in the less sun-warmed waters.

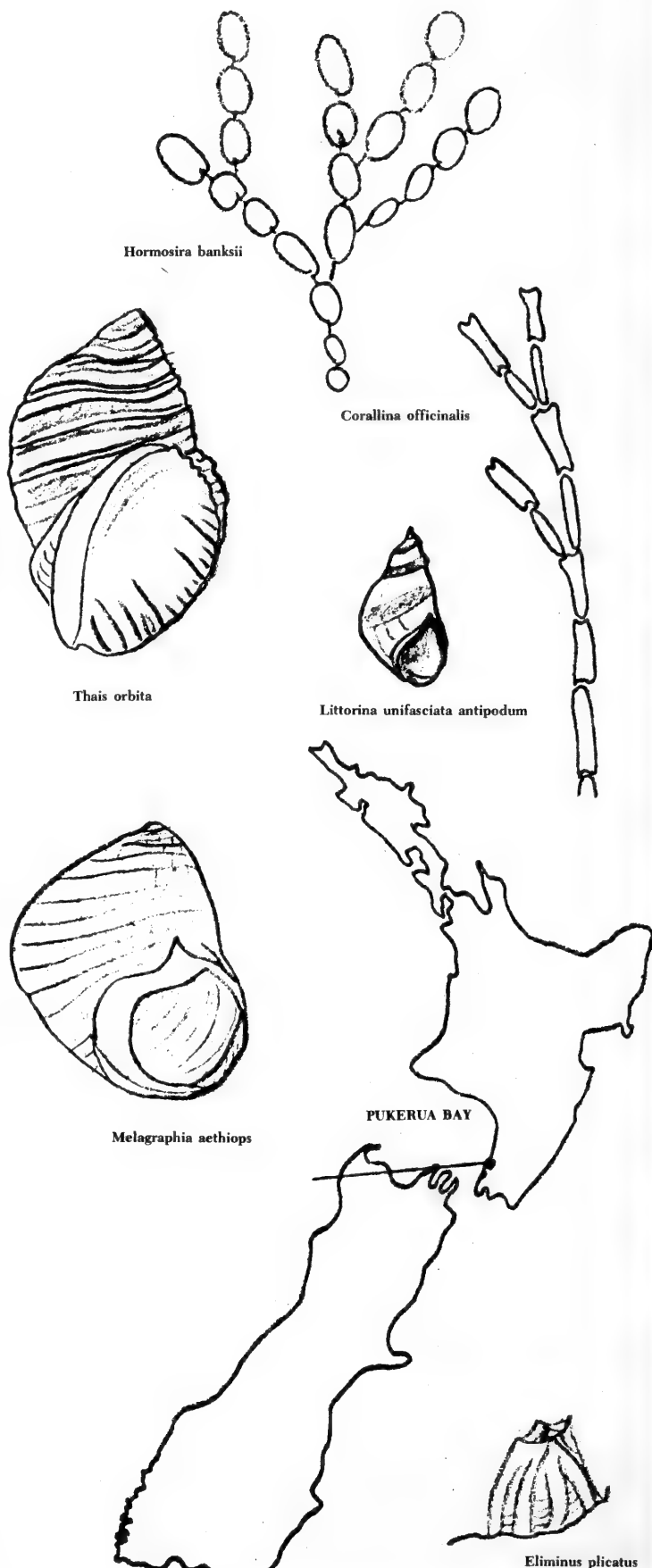
Rockpools provide a window into a world that is otherwise hidden from us. Apart from the quick spasmodic movements of small fish there are many organisms that find refuge in the fine algae growths and seaweed that lives attached to the rocks. *Corallina officinalis* is common in these pools along with *Hormosira banksii*. It is the predominantly coralline pools such as those found at Pukerua that also harbor an abundance of small red, green and brown algae.

When you look into the rockpools you can clearly see that the corallina creates a multi-layered habitat. Corallina is the food of our common Catseye *Turbo smaragdus* (Gmelin), amongst the coralline growth I found *T. smaragdus* at every stage of growth, from the very small through to the half-mature green spirally ridged shells and the dark, smooth adult specimens.

Very common under ledges and in crevasses were the Thaididae. These carnivorous gastropods were represented by the white *Thais orbita* (Gmelin) and the dark *Haustrum haustorium* (Gmelin). *T. orbita* was exceptionally common and appeared to live on the surf barnacle, *Eliminus plicatus*, for although it's generally a mussel feeder there were no mussels in any great quantity to be found on this piece of coastline.

The large patellid *Cellana radians radians* (Gmelin) was common within the littoral and sub-littoral fringe where it grazes in patches clear of the larger algae. Many of the cellana had dull brown ralfsia growth on their shells. This limpet, often called the "Radiate Limpet", is found throughout New Zealand; the young shells tend to be boldly patterned but the spots and markings on their shells vanish with age and weathering by the sea. The silver interior becomes cloudy while the outside can vary in color from white to reddish-brown. I also pried several other subspecies from the rocks during the afternoon: *Cellana ornata* (Dillwyn), a beautiful limpet from the upper tidal zone with its upper surface covered in a pattern of lines and raised dots and *Cellana strigilis redimiculum* (Reeve), a thick, strongly sculpted shell in midbrown tonings.

Where there are limpets there always seem to be chitons and Pukerua was no exception. I found many fine examples of these fascinating shells, that are as common on the surface of rocks as on the underside, although they were represented by differing species in each case. Lifting up loose rocks I found many *Amaurochiton glaucus* (Gray), a common green chiton with a narrow girdle, small overlapping plates and faint radial striations. The color of these chitons can vary from olive, yellow-green, blue-green to a brown shade. To keep a record



of the color variation found within this species. I collected several specimens which I treated when I got home that night. *A. glaucus* was once considered to be peculiar to New Zealand but I read that it has established itself in the Derwent Estuary in Tasmania and it is quite common there.

I believe that there is nothing more beautiful than the opalescent hues of an empty *Haliotis iris* (Gmelin) glinting beneath slightly wind-rippled water. The local population had obviously been "Paua" gathering and had discarded the empty shells. The *H. iris* is herbivorous; it lives on seaweeds and that makes for the animal a high protein meal if eaten. I also found some excellent specimens of the *Haliotis australis* (Gmelin), a silvery-hued shell with strong corrugations.

Shells like the *Melagraphia aethiops* (Gray) abound on the rocky shore. These shells aren't very colorful but there are so many of them that they are a characteristic of the shore in this particular area. It is our most common topshell and it grazes on open surfaces in the barnacle and splash zone. The shell seldom reaches more than an inch in height and is a dull purplish-gray to black color. *M. aethiops* moves about freely in the rock-pools and is quite at home on rock surfaces in the moist splash zone where it feeds on organic particles which become caught in crevices.

There are several members of the Trochidae that are very well represented on this part of the coastline including the "Periwinkle", *Littorina unifasciata antipodum* (Philippi), a small snail with a big name! The shell is a small and sharply conical one with each whorl white with a blue band below. It has a very close fitting operculum and can subsequently live out of the water for up to weeks at a time. The animal is very tolerant of the sun and I found that in many cases the shells that lived furthest up the shore were the biggest specimens although it was these that had the most eroded shells.

Down where the *T. smaragdus* feed on *Capophyllum* and brown kelp, I could see several small *Cookia sulcata* (Gmelin) which, like the *T. smaragdus*, are members of the Turbinidae. *C. sulcata* is a very heavy conical shell of gray coloring. It has a heavy operculum of a shelly material that resembles porcelain. The adult *C. sulcata* lives below the low water mark, its shell usually heavily encrusted with limey growths. Along with the immature *C. sulcata* of the intertidal rocks, I also found many live specimens of *Lepsiella scobina* (Quoy & Gaimard) and *Lepsiella scobina albomarginata* (Deshayes). These are both shell boring whelks that you can find anywhere there are barnacles covering the rocks. *L. scobina* is the smallest and most common of the Thaididae. It is found in

hundreds and is a predator of mussels, oysters and barnacles. The shell is about 3 cm long, gray and roughly sculpted. The aperture is chocolate brown and white lipped.

Algae of rockpools provide a good habitat for many organisms both sessile and mobile. It does not dry easily between tides and provides anchorage, shelter and algal tissue for feeding. *Corallina officinalis* and *Hormosira banksii*, 2 of the most common algal types found at Pukerua Bay, provided a home for many of the shells that I collected that day.

I found that many of the shells were badly eroded by small boring organisms and encrusting growths, especially the *C. sulcata* where it must be almost impossible to find an adult shell in perfect condition. These shells seem to attract a thick limey deposit. The fine, wrinkled, web-like sculpture on the shell provides too good an anchorage for these growths. Its relative, *T. smaragdus*, is also hard to obtain in perfect condition as the spire in adult specimens is easily eroded by wave action.

The Echinoidea are so well represented on the rocky coastlines of New Zealand that I will mention them now. The sea-egg, *Evechinus chloroticus*, lives from well below the sublittoral fringe right up to the coralline pools of the mid-littoral zone, their size ranging from the very small right up to 11 cm adults. These urchins live in cracks in the rocks and under ledges or concavities and their spines have an abrasive action that enlarges their abode. *E. chloroticus* has long, sharp, green spines; amongst these are the brown tube feet that give the urchin a firm hold or can be used to attach small bits of shell and pebble to it for camouflage. The sea urchin grazes on corallina and other algae with very strong jaws. *E. chloroticus* seems to me to be overtaking some areas of the N.Z. coastline in plague proportion, although its concentration in Pukerua Bay does not appear to be too bad at this stage.

It was common for a shell to be found harboring a hermit crab rather than a mollusk. The shells that appeared to have grown legs had become the residence of the common *Pagurus novaezelandiae*. It has strong walking legs and was often the inhabitant of the heavy *Thais orbita*.

Apart from the molluscan life to be found in the tidal pools, there were also many other diverse life forms. Underneath rocks and stones there were the tubes of the worm *Pomatoeceros caerulus*, the worm hidden from view awaiting the next high tide. Small sponges, sea anemones and many crustacea abound in these pools. . . all in all making for an interesting look into an underwater community.

Adequate housing is apparently a problem everywhere these days. A hermit crab was found taking up residence in a discarded Vick's bottle!

\* \* \*

### The WHAT'S-IN-A-NAME Department

Otohime, or Princess Oto of the Sea, according to Japanese mythology, inhabited "Dragon Castle" at the bottom of the ocean. A befriended turtle took the fisherman, Urashiman, on a magical three day voyage to visit Otohime. On his departure Urashiman was given a box by the princess with the instructions that he was never to open it. Upon his return to his world he found everything subtly changed and recognized no one. He disobeyed the princess's instructions and opened the box whereupon he was engulfed by a cloud of smoke which transformed him into a gray, wrinkled, exceedingly old man. His 3 enchanted days in Otohime's realm were the equivalent of many ages in his normal home. Both the princess and the fisherman are commemorated in the cones, *Conus otohimeae* and *Conus urashimanus*!



## C.O.A. GRAND TROPHY WINNERS

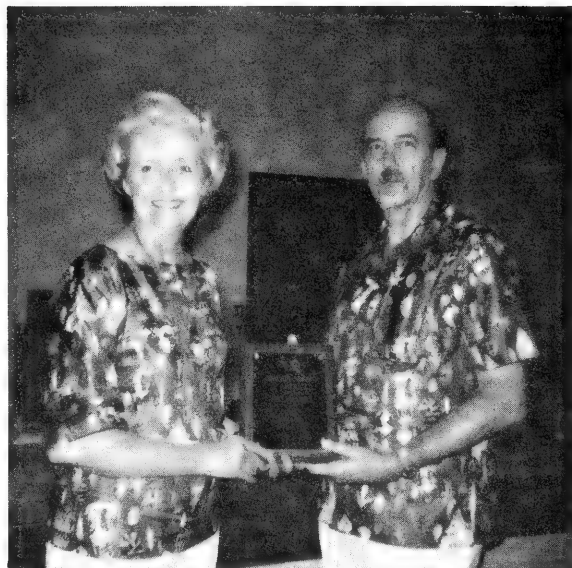


Fig. 1. Bernard & Phyllis Pipher with their C.O.A. Grand Trophy

**Texas State Shell Show, Oct. 29-31, 1982**

winners: **Bernard & Phyllis Pipher**

display: **Lyropectens**

Phyl and Bernie Pipher of the Tekamah Shell Club need no introduction to C.O.A. members! Their prize winning exhibit on the genus *Lyropecten* presented the bivalves displayed in "butterfly form" above a mirror so that all sides were visible. Included was an enormous *Lyropecten magnificus* which had taken "Shell of the Show" in the 1974 show in Santa Barbara, CA. . . it received the same award at this Corpus Christi show! The Piphers also won the duPont trophy for a 42 foot display of world-wide cone shells.



Fig. 2. Pat Bingham is presented with the C.O.A. Grand Trophy by Show Chairman Norris McElya at the Greater Miami Shell Club's 20th Annual Show.

**Greater Miami Shell Club's 20th Annual Show, Jan. 28-31, 1982**

winners: **Dick and Pat Bingham**

display: **"Story of the Caribbean Murex"**

The Bingham's award winning, 30 foot long display explained copulation, spawning, egg masses and anatomy of the Caribbean

murex and included X-rays showing internal structure and a model of the living animal of *Murex pomum*. The Bingham's, from North Palm Beach, Florida, have been collecting Caribbean murex for the past six years.

**1982 West Coast Shell Show, Oct. 2-3**

winners: **Robert Foster & Charles Glass**

display: **The Murex Family**

Mssrs. Foster & Glass are the editors of the C.O.A. Bulletin and this is the fourth consecutive year that they have won the C.O.A. Grand Trophy. The display covered one whole table and consisted of one large display case and two smaller ones, with a total of 275 Muricid shells. The same team also won "Shell of the Show" trophy for their *Perotrochus adansonianus* and the "Judges' Special" for a double case display of "Tritons & Frogs". Glass also won the duPont and Sara Delaney Memorial trophies for his "Self-Collected Southern California Shells" display. The judges were William Old, Anthony D'Attilio and Cid Derry. The show featured over a hundred individual entries.

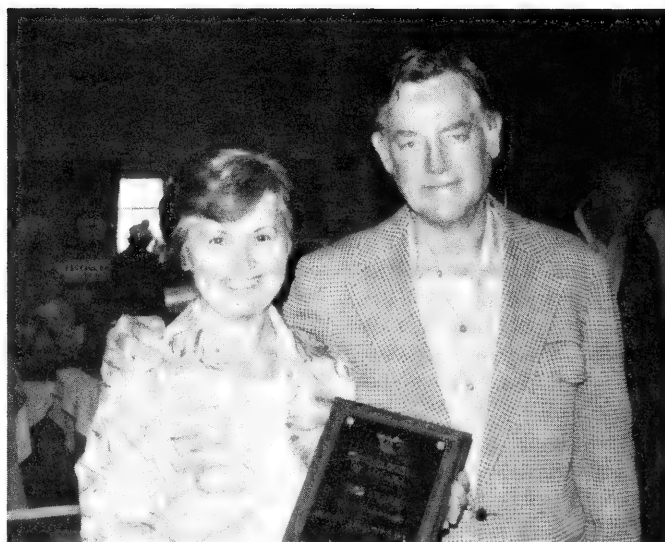


Fig. 3. Thelma and William Shaw, winners of the C.O.A. Grand Trophy for their exhibit, "Cone Shells — The Living Conidae" at the Southwest Florida Conchologist Society Shell Show.

**Southwest Florida Conchologist Society Shell Show, Jan. 1982**

winners: **Thelma & William Shaw**

display: **"Cone Shells — The Living Conidae"**

15 large cases extending for 37 feet made up this exhibit with approximately 550 specimens of 410 species, subspecies and varieties. The Shaws started getting involved with shell collecting soon after moving to Flushing, New York, on New Year's Day, 1974 when a friend took them to a local beach. They really got hooked, however, after Mrs. Shaw found a *Junonia* on the beach in Sanibel one winter. They became shelling addicts, patrolling local beaches and occasionally visiting the Florida Keys, the Bahamas, Antigua and even Cuba! Mr. Shaw states that as long as he can walk he'll be a sheller and that as long as they have an extra dime — or rather dollar — his wife will be a shell collector!

**35th Annual St. Petersburg Shell Show, Feb. 25-28, 1982**

winner: **John Hoft Jr.**

display: **"Seashell Expedition"**

Mr. Hoft, a young lawyer from Tampa, Florida displayed self-collected material from Florida and the Caribbean. The show included 47 shell exhibits and 13 shell-craft exhibits.



Fig. 4. Chip and Edie Chippeaux display their C.O.A. Grand Trophy in front of their exhibit at the Naples, Florida Shell Show.

**Naples, Florida Shell Show, Feb. 19-21, 1982**

**winners: Chip & Edie Chippeaux**

**display: "Bahia de Panama, Self-collected"**

This second C.O.A. award for Mr. & Mrs. Chippeaux went to their display consisting of twelve 19 X 25 inch cases running 19 feet. The shells were divided into three categories: taken at night, in the daytime and while dredging for scallops.

The Chippeaux became interested in shells in 1955 while he was in the military and stationed in Panama. Upon their return from Panama they made several shelling trips to Florida, Sanibel and the Keys, then moved to Florida in 1969, to Fort Myers. Other than Panamic and Caribbean shells, they specialize in Strombidae.

**Sarasota Shell Show, Jan. 29-31, 1982**

**winner: Dick Forbush**

**display: "How Seashells are Collected"**

Mr. Forbush, a new Florida resident, presented several methods of obtaining shells, from trading to deep-water dredging. His display was one of 41 scientific and 24 artistic competitive entries.

**NOTE:** Apply for the C.O.A. Grand Trophy for your local show by writing to Anne Joffe, 1163 Kittiwake Circle, Sanibel Island, FL 33957.

C.O.A. Grand Trophy winners or shell show chairpersons are invited to submit information about winning exhibits and photographs for possible inclusion in the Bulletin. Please include stamped, self-addressed envelope if pictures are to be returned.



Fig. 5. Lee and Kay Easland with their prized C.O.A. Grand Trophy at the Astronaut Trail Shell Show.

**Astronaut Trail Shell Show, Jan. 15-17, 1982**

**winners: Les & Kay Easland**

**display: "Family Pectinidae Rafinesque, 1815"**

The Easlands are from Orlando, Florida. The show was held at Kiwanis Island, Merritt Island, Florida, and included 35 exhibitors with 360 running feet of displays.

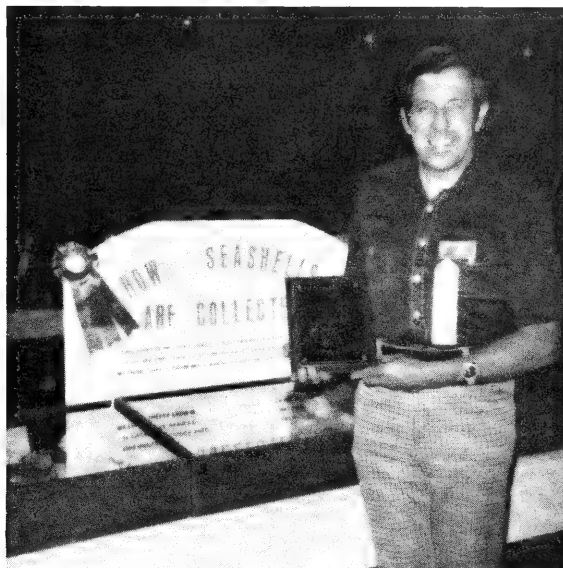


Fig. 6. Dick Forbush with his award in front of his prize-winning display at the Sarasota Shell Show.

### DARWIN REVISITED

A husband was overheard explaining to his wife that the *Nautilus* was descended from a tree, as he examined the display of live nautilus at the Honolulu Aquarium. The unintentional eavesdropper, highly perplexed by this remark - to say the least - went over to study the display to see what could have given the fellow that idea. On the side of the aquarium there was an exhibit with the title, "*Nautilus* Family Tree".

**BUSINESS MEETING: cont from page 2**

The subject of a dues increase was opened. Phyllis Pipher asserted that our current dues do not cover expenses. A general discussion followed, and it was decided to increase the annual dues to \$7.50 individual, \$10.00 family, and \$5.00 overseas. After October 1, 1982, new members will receive the 3 months remaining in 1982, plus all of 1983.

President Greenberg reported the recommendation of the Executive Committee to establish a Gerrie Walklet Memorial Scholarship Fund in the amount of \$500 to be awarded annually to a graduate student in malacology. The money would be invested annually until the fund is self-sustaining. A motion was made and seconded, and immediately voted affirmative, without any discussion. A Scholarship Fund Committee will be appointed by the president. A touching eulogy to Gerrie Walklet was read by Bernard Pipher.

The locations for future meetings was then discussed. In order to encourage shell clubs to host the C.O.A. annual meetings, it was suggested that a list of specifications be printed in the Bulletin; the summer months being preferred by most members. Martin Lerner gave a brief discussion on field trip possibilities other than shell collecting, such as museum trips, sight-seeing, etc. He emphasized that every city has many possibilities.

It was announced that the attendance at this meeting was around 210 -- our largest meeting to date.

Martin Lerner then rose to thank Sue Stephens, Chairman of Local Arrangements, the Sanibel-Captiva Shell Club, and the Sarasota Shell Club for the magnificent arrangements for the meeting.

The President of the St. Petersburg Shell Club welcomed the membership for the 1984 annual meeting in his city, and the meeting was adjourned at 2:00 p.m.

Respectfully submitted,  
Jay J. Tripp, Secretary

**ADDITIONS TO MEMBERSHIP ROSTER FOR 1982  
(and inadvertent omissions)**

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KATHERINE M. WEILER

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**ADDRESS CHANGES AND CORRECTIONS**

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RICHARD & JANE FORBUSH

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MAVIS WALKUP

401 E 5TH, APT 6, CLOVIS, NM 88101

DAVID & JOLENE WOLF

404 E. LOCUST, ROBINSON, IL 62454

**"THOSE WHO GIVE"**

Our growing society is becoming a household name among participants and visitors to the dozens of shell shows held each year from Hawaii to London and from Cleveland to Miami. The much sought-after C.O.A. Grand Trophy, one of the most highly prized awards in the shell world, and its valuable booklet of gift certificates are stimulating great interest in our club. But special thanks must go to the enthusiastic dealers and publishers who each year have generously given of time and money to the cause. Here's a bravo to:

**American Malacologists, Inc.,**

Box 2255, Melbourne, FL 32901

**Kirk Anders Shelling Tours,**

Box 14633, Fort Lauderdale, FL 33302

**Benjane Arts,**

320 Hempstead Ave., West Hempstead, NY 11552

**The Blue Mussel,**

478 Fifth Ave. So., Naples, FL 33940

**Richard M. Kurz, Inc.,**

1575 North 118 st., Wauwatosa, WI 53226

**Mal de Mer Enterprises,**

Box 482, W. Hempstead, NY 11552

**New York Shell Club,**

211 Milligan Rd., West Babylon, NY 11704

**Of Sea and Shore,**

Box 33, Port Gamble, WA 98364

**The Shell Gallery,**

Piccadilly Square, 77 Union St., Newton Centre, MA 02159

**The Shell Store,**

440-75th Ave., Route A19A, St. Petersburg, FL 33706

**Shelloak,**

129 Blackjack St., Brooksville, FL 33512

**Shells of the Seas, Inc.,**

Box 1418, Ft. Lauderdale, FL 33302

**Tidepool Gallery,**

22762 Pacific Coast Highway, Malibu, CA 90265

**C.O.A. TRADING POST**

Lynn Nathanson, 3369 Milburn Ave., Baldwin, NY 11510 has beautiful Long Island *Argopecten irradians* Lamarck (orange, white, tan, etc.) to trade.

**THE SOUTHWEST FLORIDA CONCHOLOGIST  
SOCIETY'S 16TH ANNUAL SHELL SHOW**

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## MARGINELLA TESSELLATA REDISCOVERED

RICHARD L. GOLDBERG

Recently dredged specimens of a *Marginella* species off West Panama, by James Ernest, have surfaced the true identity of *Marginella tessellata* Lamarck, 1822. In a paper published by Barry Roth and William K. Emerson (Nautilus, Vol. 96, No.4/Oct. 29, 1982), the authors have reinstated the name *Persicula tessellata* to the literature as a valid species most closely related to *P. accola* (Roth & Coan, 1968), also from West Panama.

*Marginella tessellata* was originally described from an unknown province, and Roth & Emerson have now designated the type locality "off Isla Cebaco, West Panama." The nomenclature surrounding the *Marginella tessellata*, *porcellana*, *accola* complex is quite confusing.

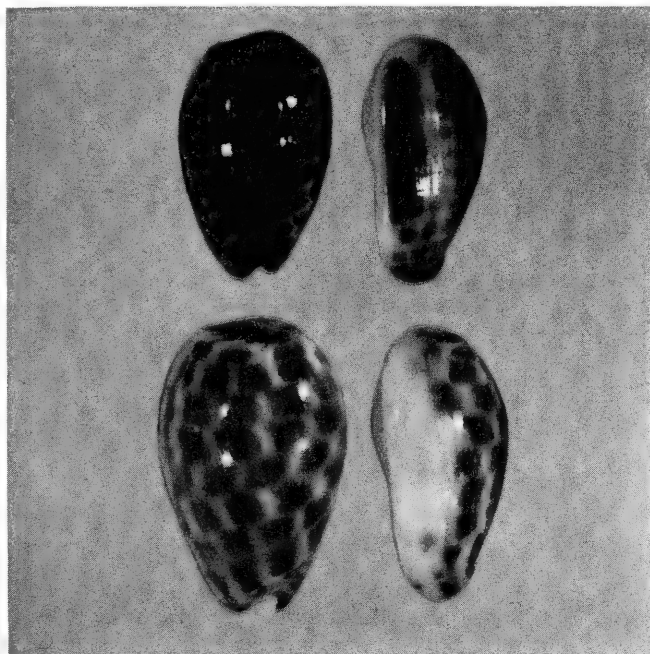


Fig. 1: *Persicula accola* (Roth & Coan, 1968) - Isla Gubernador, West Panama; taken in 2 fathoms of water, on muddy sand. Figure 2: *Persicula tessellata* (Lamarck, 1822) - Isla de Cebaco, West Panama; dredged in 100 feet of water, in white sand. Photos: Worldwide Specimen Shells.

Basically, Gmelin (1791) described *Voluta porcellana* with reference to two figures in Chemnitz (1788), with a type locality of Indian Ocean. This locality was speculative. Lamarck (1822) described *Marginella tessellata* citing the same two figures in Chemnitz. Later authors beginning with Reeve (1864), considered Lamarck's & Gmelin's species as synonymous, perhaps because both cited the same figures. Sowerby (1846) illustrated three different specimens as *M. tessellata*; one of them actually being *Persicula chrysomelina* (Redfield, 1848). Sowerby was the first to designate the locality of *M. tessellata* as Venezuela. Roth & Emerson (1982) state that Sowerby's illustrations are suggestive of *P. porcellana* (Gmelin, 1791) (*M. obesa* Redfield, 1846 & *Voluta albida* Bosc, 1801 being junior synonyms), and that Chemnitz' illustrations cited by Gmelin for his species, agree more closely with the Caribbean species than with the Pacific *P. tessellata*; thus *Voluta porcellana* is the oldest name of the Caribbean species.

Roth and Coan (1966) designated the holotype of *M. tessellata*

as a neotype for *Voluta porcellana*. They had regarded *Persicula porcellana* as an eastern Pacific species. In 1968, they renamed the eastern Pacific species as *P. accola*, and allocated the name *P. porcellana* to the western Atlantic species. The recent discovery of true *P. tessellata* from West Panama removes it as a junior synonym of *P. porcellana*.

*P. accola* is the closest relative to *P. tessellata*, both physically and geographically, and differs by its consistently smaller size, rows of spots covering about 90% of the shell's surface, among other differences listed by Roth and Emerson. *P. accola* is reported to be an intertidal species, found in mixed sand and mud, while *P. tessellata* is found in deep water, down to about 30 meters, on white sand and very clear water.

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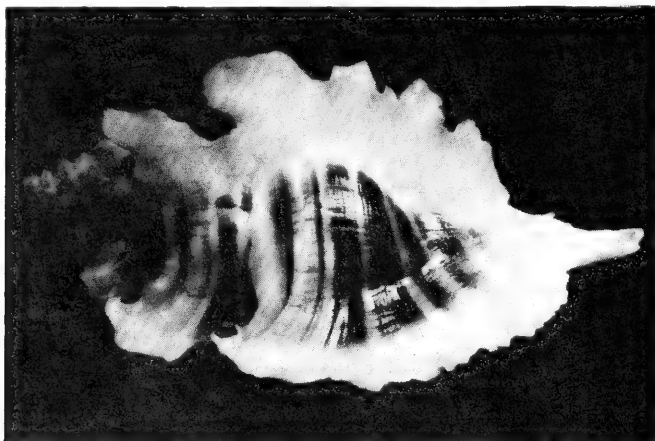
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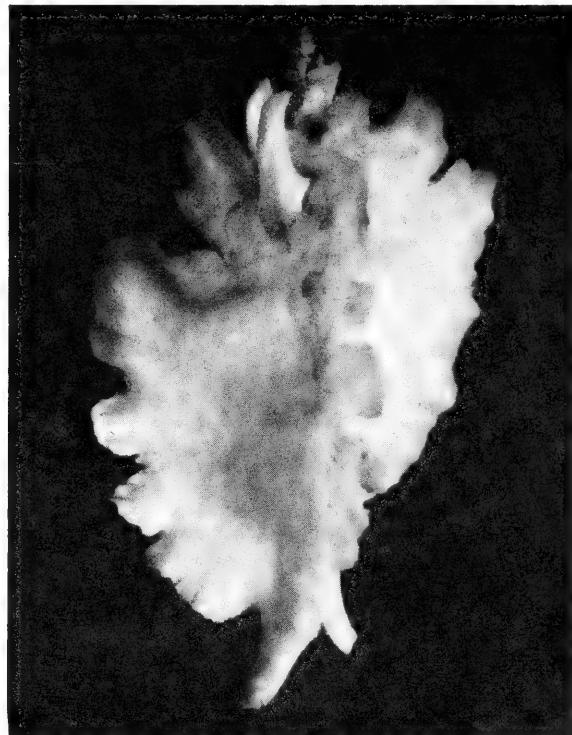
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Figs. 1 & 2. Typical (left) and albino forms of *Pteropurpura trialata* (Sowerby), both 90.25 mm long, both from about 20 ft on rocks on the breakwater in Los Angeles Harbor.



## CALIFORNIA SEASHELLS PART II: *PTEROPURPURA* (MURICIDAE)

CHARLES GLASS & ROBERT FOSTER

The main contender with *Ceratostoma foliatum* for the title of most elegantly beautiful of California murex shells is certainly *Pteropurpura trialata* (Sowerby, 1834), the "Three Winged Murex". It is a large, cream-colored shell with brown bands and broad, fluted wings or varices. It is listed as being as large as 93 mm and we have found exceptional specimens up to 97 mm long, just under 4 inches. The range is given as extending from Cedros Island off Baja California to Bodega Bay, Marin County, California, but scarce north of Palos Verdes. We have collected specimens near the Los Angeles Harbor and an occasional specimen near the Avalon breakwater, Catalina, near the Santa Barbara wharf and on the reef near Elwood, west of Santa Barbara. It is generally found in 10 to 30 feet of water, under and between rocks such as on breakwaters or pilings, often at bay entrances, often in association with other muricid shells, namely *Ceratostoma nuttalli*, *Ocenebra foveolata*, *Roperia poulsoni* and *Pteropurpura festiva*.

While brown-banded, cream-colored shells are the norm, pure white forms are not exceedingly rare, say 1 out of 8 or 10, but nearly completely brown forms are indeed quite rare. Freshly collected shells are generally not particularly difficult to clean, being often partially covered with small, limey encrustations which can be flaked off, and the high spire is usually in good condition. One or two of the wing tips are, unfortunately, often broken, however, or bored by worms. The lobed, wing-like varices are particularly delicate and graceful as is the slender, curved siphonal canal.

Another of California's choicest muricids, in fact, the type of the genus, *Pteropurpura*, is *Pteropurpura macroptera* (Deshayes, 1839). Until 1964 when Dr. Emerson determined the identity based on the type specimens, *macroptera* was known under the junior synonym, *Pteronotus carpenteri* Dall, 1899. *P. trialatus* was also confused with this species. In 1908 in *The Nautilus* (21:105-106) Dr. Stillman Berry made note of what he called *Murex carpenteri* form *alba* with the comment, "during the past year the fishermen of Newport, Orange County, California, have brought up a number of specimens

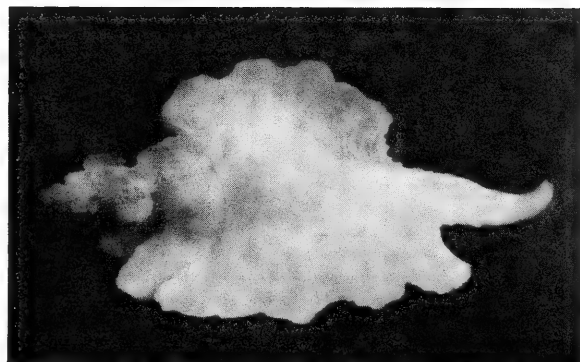
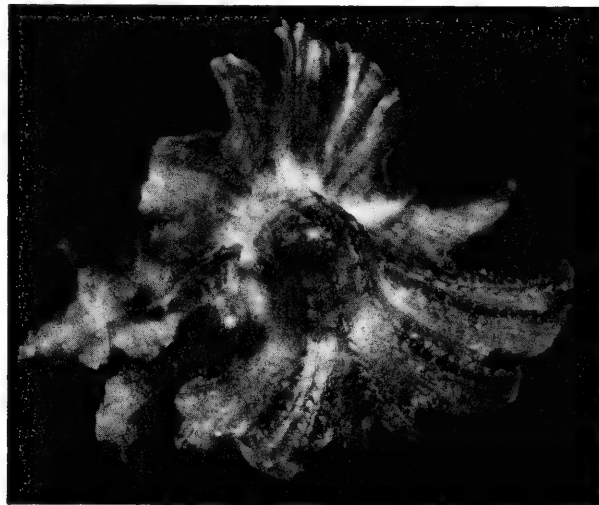


Fig. 3. (above). An exceedingly rare, white form of *P. macroptera* (Deshayes), 51 mm long, leg. John Phillips, in 75 ft at Coho Anchorage. Fig. 4 (below). An exceptionally fine, 60 mm long specimen of *P. macroptera* from Canby Reef off Santa Barbara Harbor.



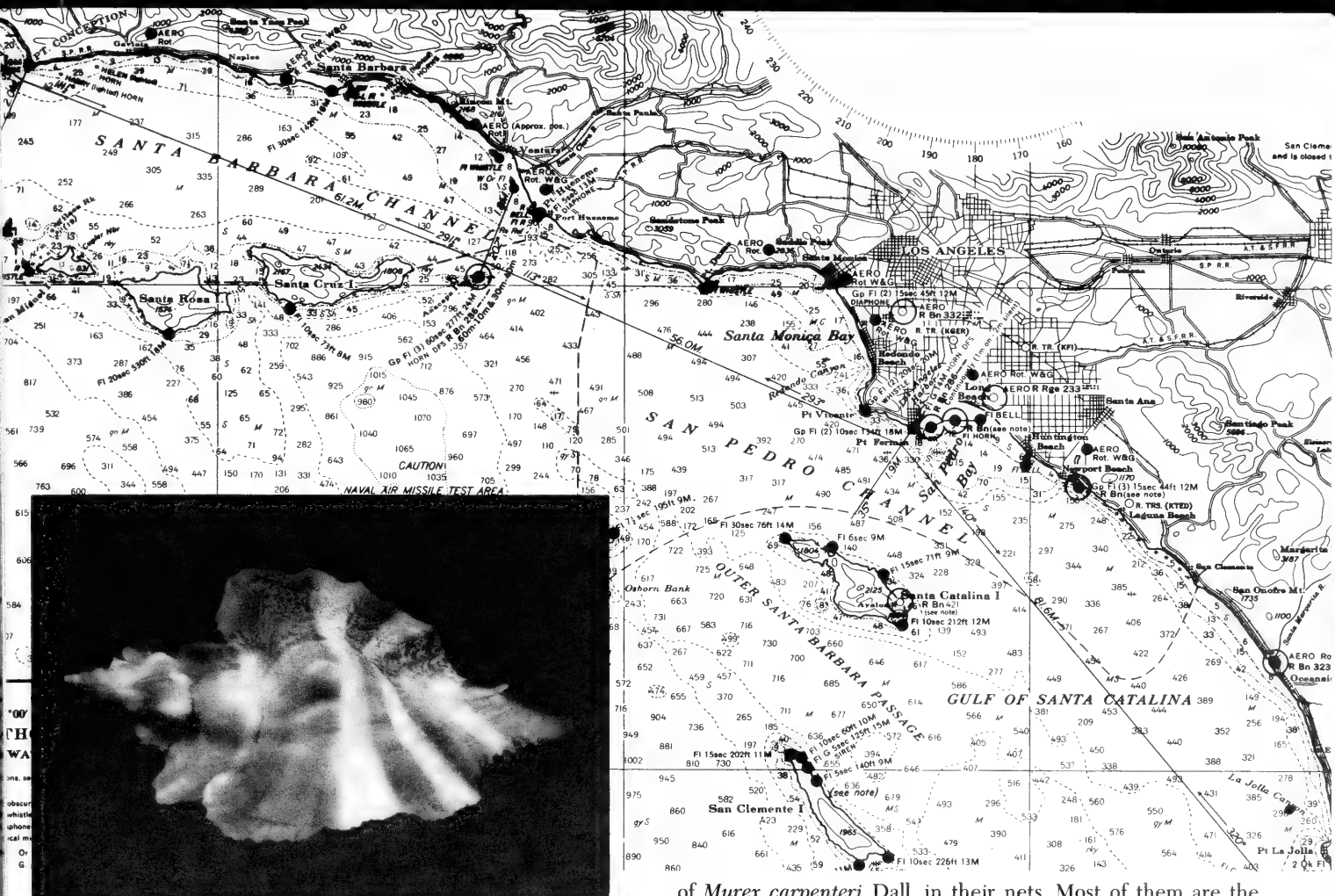
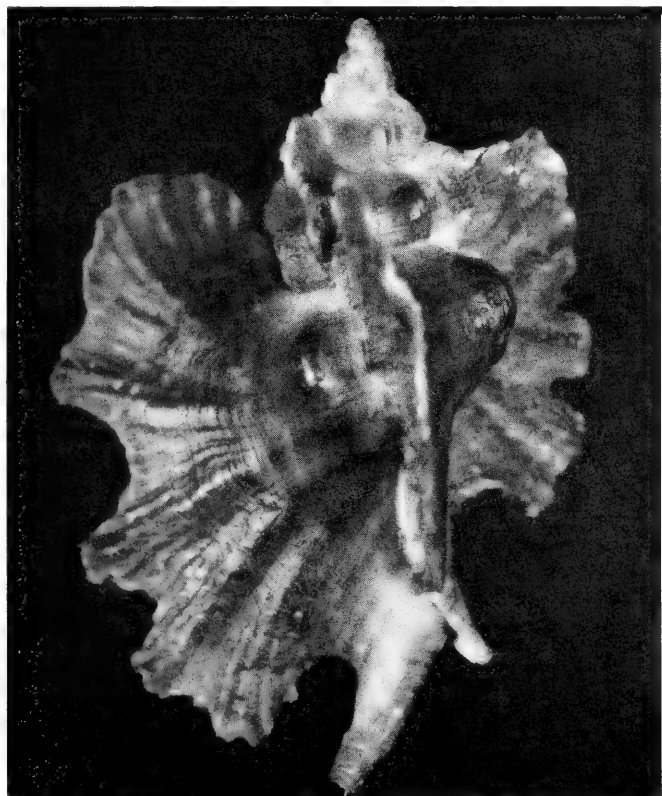


Fig. 5 (above). The white banded, "tremperi" form of *P. macroptera*, this 39 mm long specimen from 60 ft near Point Conception, leg. John Phillips. Fig. 6 (below). Top view of a specimen of *P. macroptera*, a 51.7 mm long specimen taken in about 70 ft near Canby Reef. Note characteristic flare and indentation of anterior varical margins near siphonal canal.



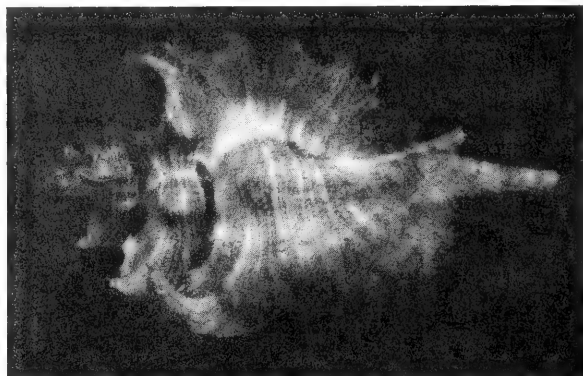
of *Murex carpenteri* Dall, in their nets. Most of them are the ordinary form, but among them are two or three specimens of pure white color, showing little or none of the brownish coloration so characteristic of the species. This is a really beautiful variation, but as yet it seems to be very rare. According to the usual custom, this form may be referred to as the form or variety *alba*.--S.S. Berry". When *carpenteri* was found to be a synonym of *Pteropurpura macroptera*, *alba* was also accepted as a white form of *macroptera*. We considered that this was highly unlikely since out of thousands of specimens of *P. macroptera*, we have only ever heard of 2 white ones (one of which is in our collection). We considered it far more likely that Berry's white form was a white form of *P. trialata*, since it is far more likely that if 2 or 3 specimens were netted by fishermen they would be referable to that species rather than the extraordinarily rare white *P. macroptera*, a plausible theory since *P. trialata* and *P. macroptera* had indeed been confused with each other. Since the type of Berry's form *alba* was neither pictured nor described, and was in his private collection and since he is now 95 years old, it was not too possible to prove that theory. However, recently Dr. Berry has most graciously given us permission to visit his collection and hopefully solve this admittedly minor riddle.

*P. macroptera* is indeed a lovely species. An exceptional specimen may be as long as 75 mm (3 inches) and with gracefully recurved, winged varices. Most shells are a rich, chestnut to almost purplish brown but there is a rare form with 1 or more flaring, white stripes across the body whorl which was named *Murex carpenteri* var. *tremperi* by Dall (1910) and then the exceedingly rare white form we mentioned above (see figures 3 & 4). There are also minor variations which are a bit perplexing, with some specimens, possibly whole populations, the shell may be smooth or scabrous, the varices stiff and straight or gracefully recurved,

the varical digitations brief or long and slender. More habitat studies and population samplings must be made before it can be determined whether these differences are related to geographical distribution. There is, however, an intriguing possibility which may explain some of this variability, but we will take that up in our discussion of the following species, *Pteropurpura vokesae*.

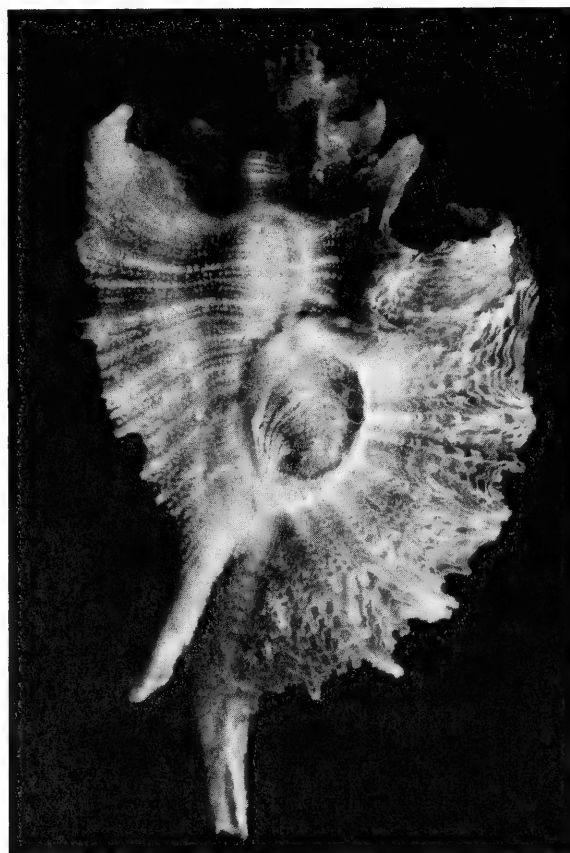
In our experience we have found the species *Pteropurpura macroptera* in moderately deep water, around and on low rocky reefs in 60 to 100 feet of water. We have found by far the best specimens off the Santa Barbara harbor, but we have also collected it at Horseshoe Kelp Reef off the Los Angeles harbor, off San Clemente Island, at Coho Anchorage near Point Conception and 1 specimen in only 45 feet of water off Santa Cruz Island and a juvenile specimen in just 30 ft. on the breakwater of Monterey harbor! We have often found them in the act of drilling *Ventricolaria* (*Circomphalus*) *fordii* bivalves. Indeed virtually all dead specimens of this bivalve which we have found have had drill holes in them.

The range of *P. macroptera* is given as extending from Monterey Bay, California, to Todos Santos Bay, Baja California, at depths below 60 feet.

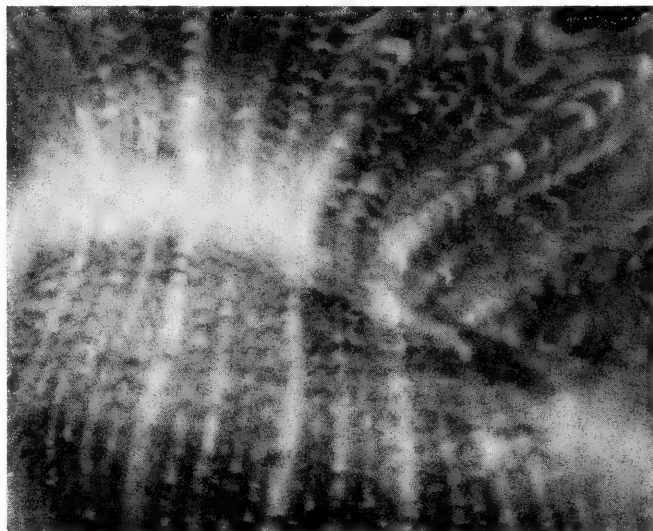


*Pteropurpura vokesae* Emerson, 1964 is a new name for what was previously known as *Murex rhyssus* Dall, 1919, a name preoccupied by a Tertiary fossil *Murex*. In the Radwin-D'Attilio classification, *P. vokesae* was transferred to *Ocenebra*. External characteristics certainly are remarkably similar to *P. macroptera*, the type of the genus, and Mr. D'Attilio agrees that the radular characteristics are compatible with *Pteropurpura* as well as *Ocenebra*. Surprisingly, the two species, *P. macroptera* and *P. vokesae*, are often found together, occupying the same habitat, and it can be difficult to determine to which species a somewhat encrusted shell belongs, so similar can they be in general shape, at least in the case of some forms of *P. macroptera*. Indeed, Dall apparently confused the two species, since the shell from which he supposedly drew the description of his *Murex petri* (lectotype in the U.S. National Museum) is *P. macroptera* whereas he later figured *Murex rhyssus* (= *P. vokesae*) as *Murex petri*! One is hesitant to speculate on the occurrence of hybrids, but it does seem within the realm of possibility that there may be hybrid influence between these two similar species occupying the same niche which causes the variability in *P. macroptera*, giving rise to the curvature of the varix wings and the occasionally scabrous sculpture. *P. vokesae* is an intricate, elegant jewel of a shell, with backswept varical wings and strong, lacelike, scabrous lamellae covering the entire shell. The color is yellowish brown. We have observed very little variation.

The range of *P. vokesae* is given as extending from Santa Rosa Island, in the Santa Barbara Channel Island group, to



Figs. 7, 8 & 9. *P. vokesae* Emerson, a near-perfect, 55.9 mm long specimen from near Canby Reef. Fig. 7 (left). Side view. Fig. 8 (above). Ventral view showing aperture and operculum; compare outline to fig. 6. Fig. 9 (below). Greatly enlarged detail of delicate sculpturing.



San Bartolome Bay, Baja California. We have collected specimens off the L.A. harbor at San Pedro, on Horseshoe Kelp Reef, virtually the type locality, in about 80 feet, and, our best specimens, off the Santa Barbara harbor near low reefs on silt in 60 to 90 feet. We were surprised to find 2 small *P. vokesae* in only 30 ft. on the L.A. harbor breakwater. Fortunately some specimens are quite clean or with only a soft, crumbly, sugar-like encrustation, for it is practically impossible to remove hard, limey encrustations without destroying the delicate sculpturing.



The fourth and only other known California member of this genus is *Pteropurpura festiva* (Hinds, 1844). It seems rather drab in comparison to its showy cousins, but it is an attractive enough species in its own right. The three varices are strongly recurved and have the appearance of cresting waves. The body whorl is decorated with numerous, usually darker, finely cut striae or grooves. The shell color is white to yellowish brown. The maximum length is given as 60 mm but in most areas specimens over 25-40 mm are rare indeed. The range is given as extending from Santa Barbara, California to Magdalena Bay, Baja California. We have found it most abundantly on the breakwaters in the L.A. harbor in 10 to 20 ft. where it is not uncommon to find hundreds of small shells in congregations on one rock! We have also found it in 20 to 25 feet on wharf pilings and low, rocky reefs off Santa Barbara beaches. We recently found two larger specimens in about 30 feet near the Avalon breakwater on Catalina Island in the act of boring the *Ventricolaria* (*Circomphalus*) *fordii* bivalve.

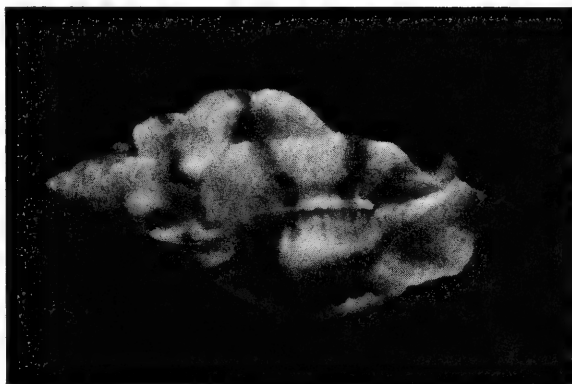
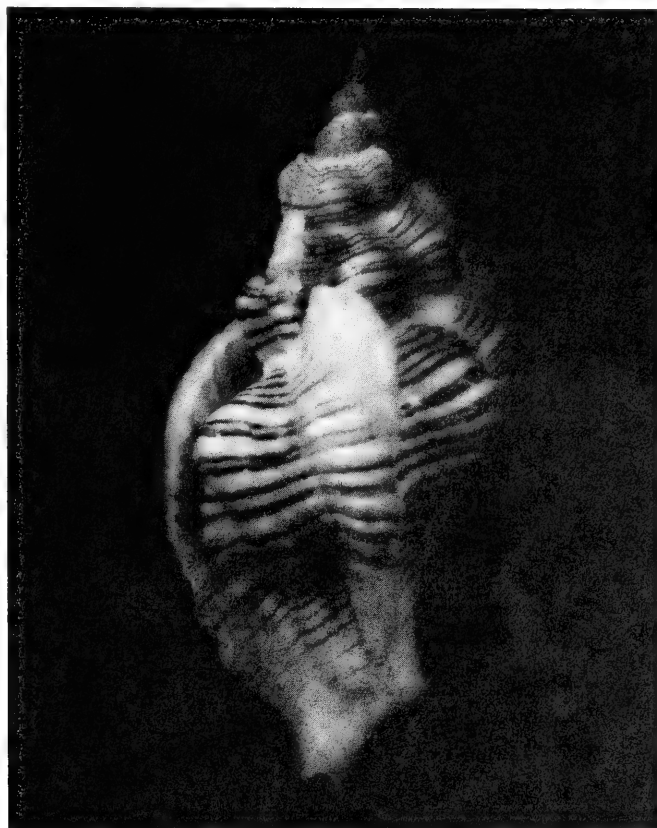


Fig. 10. *P. festiva* (Hinds), a 53 mm long specimen coll. intertidally at Newport Bay, rather unusual specimen for its brownish banding and near absence of striae around the body whorl. Fig. 11 (right). A typical, striated (and greatly magnified) specimen of *P. festiva*, 40 mm long, leg. J. Phillips in 40 ft., Coho Anchorage.

The genus *Shaskyus* was proposed in 1963 by Burch and Campbell for the species, but Radwin and D'Attilio considered that it could be accommodated in *Pteropurpura*, the most likely of the many genera in which it had been placed.



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On my summer vacation to the South Pacific last year in August I had the time of my life viewing the very *wildlife* of the inshore waters. Upon my first day there I find myself surrounded by the luxurious, turquoise blue of a Fijian inlet. Standing quietly on a not-so-dry piece of reef, I survey its vastness that lies before me. I turn around to view a large tide pool only a few feet from shore. Not more than two feet from my toes and in six inches of water is a young *Brachirus zebra*, the zebra turkey fish. He treads calmly, fins flexed as he watches the myriad of small blue damsels and sergeant majors dodging by him and swimming in and out of the neighboring coral chunks. The few precious moments I could spend with him, my most favorite of marine tropicals, is a treasured memory I never want to forget.

One of the most common, docile sea snakes of the area is also one of the most venomous. Two of them, possibly mates, frolicked in and about both of my legs in a couple feet of the incoming surf. Spotting them in an instant, I grabbed my younger brother and while keeping an eye on the white and black banded serpents, we scurried out of reach.

On a famous Fijian resort beach my family and I tried our beach-combing luck in a very low-tidal stretch of shore. We found a small scattering of old wooden ship wreckage sunk deep in the fine, white sand. A good portion was laid dry by the tide; we explored around it not knowing what we'd find. My dad caught sight of a small, white, round object stuck within a crevice of the half submerged boards. He bent down and dislodged it from its hiding place. It was quite an exciting discovery and we proceeded to collect half a dozen more before the tide finally came back. As we headed for our hotel room with a tropical sunset at our backs, I turned to take a last look at the old wood and felt reassured that the by now waist-high tide completely smothered the old debris, knowing that the new nosy waders were too late to find the small *Cypraea eburnea* colony.



Fig. 1. left: *Cypraea eburnea* Barnes, taken in 2-6 m under rocks and sponges at Ile Nod, New Caledonia. A specimen of the closely related *C. miliaris* Gmel. is shown to the right for comparison. Approx. nat. size.

On the other side of the same islet I decided to snorkel out a ways in the hopes of maybe finding another choice specimen to add to my shell collection. I swam out about half a meter in what amounted to nothing but a murky mess. I could barely see my own hand in front of my face but I was too eager to get out right away. I shifted my line of sight left and right trying not to disturb the sand beneath me, when all of a

sudden, this blue-striped snapper (*Lutjanus kasmira*) came from out of nowhere and swam up to my nose, eyeball to eyeball! Both in astonishment, we high tailed it out of there in opposite directions. It seems he was as spooked by me as I was by him. Looking back on it now, I can't remember when the sea had given me such a split-second surprise! It gives me a sense of amusing pleasure that still puts a smile on my face.

Amongst all of the treacherous circumstances I put myself in, including nearly stepping on a foot and a half long stone fish and taking a mile-high hike up a mountain to see a puny little waterfall (I did end up having one of the best lobster lunches of my life when I came back to the safety of my bungalow), I wouldn't have missed this trip for the world. It was really so extraordinary. It's one unforgettable "joyride" I wouldn't mind travelling again.



Fig. 2. *Lambis lambis* Linne, a 170 mm shell taken in shallow water by SCUBA by C. Glass off Kwajalein Island in the Marshalls. Photos: Glass & Foster.

While visiting one of the neighboring isles, I waded among eel grass in a blanket of sand. I noticed a bright purple, spherical creature near two inches in diameter rolling haphazardly in the water just within reach. Thinking what a nice keepsake this pretty little bobble would make and not thinking of the precaution I should've taken, I went ahead and picked it up. Much to my dismay I had a living jellyfish in my hand. Upon seeing its tentacles squirming around, I frantically threw it back into the water. The ugly thought of my poor hand swelling with pain gave me this awful, sinking feeling and I cursed my own stupidity. But to my surprise, my hand didn't swell up. I felt no pain, either. My obvious relief was enhanced when I turned my head away from the little monster. My eyes fell upon a large, manila colored object crawling slowly among the grass. By its shape I instantly knew what I was looking at. I was amazed and thrilled with joy at the generous gift the sea was giving me. Eagerly picking it up, I turned it over knowing I had a live catch but wondering what beautiful colors lay inside. As I felt the urgency of the surf splashing back and forth between my legs, I got a loving eyeful of the white, speckled, orange based mantle and long eye stalks with green pupils that stared incessantly at me. The brilliant pink-orange labials of its porcelain-like underbase gleamed in the reflected light of the sun. Each algae-laden spike was in place. The siphonal canal was in fine condition being quite long and unchipped. What I held within my fingers was *Lambis lambis*, the spider conch. I never thought I'd ever come across such an honorable prize as a beach comber.

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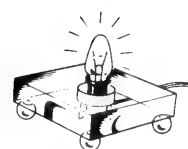
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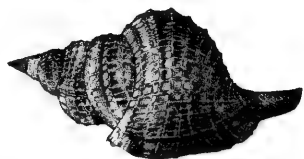
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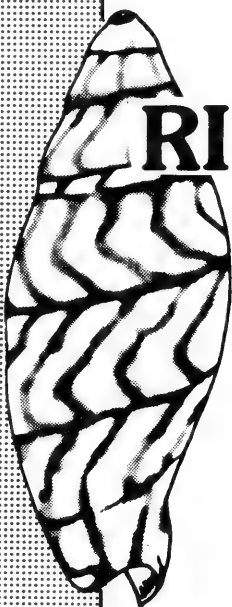
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# CONCHOLOGISTS OF AMERICA BULLETIN

VOL. 11, NO. 1

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In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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1432 Dorsh Road, South Euclid, Ohio 44121

**Vice-President:** Richard Forbush;

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#### MEMBERSHIP DUES

INDIVIDUAL (per year) \$7.50; FAMILY (receiving one Bulletin) \$10.00; OVERSEAS (Air Mail Postage) \$10.00; Send check or money order to the TREASURER (address above); \*\*\*Any other membership problems should be addressed to the MEMBERSHIP CHAIRPERSON, Phyllis Pipher, 1116 N Street, Tekamah, Nebraska; 68061.

**COVER PLATE:** *Chicoreus cornucervi* (Röding, 1798) from north-western Australia; painting by Patty McGeeney of Los Angeles; painting (and shell) in the Foster & Glass collection

#### WILLIAM E. OLD Jr. 1928—1982

It is our sad duty to inform you of the death of Bill Old, C.O.A. member, Scientific Assistant in the Department of Fossil and Living Invertebrates at the American Museum of Natural History in New York since 1960. Bill was very active in shell circles, a knowledgeable and willing judge, excellent lecturer and keen collector specializing in *Conus*. We only recently got to know Bill, since he came out to judge the West Coast Shell Show in October of 1982. We enjoyed meeting him and looking forward to a long and enriching relationship. On December 31st, apparently recovering from a severe ulcer attack, he succumbed to an apparent heart attack. In the words of Dr. William K. Emerson, Curator of Mollusks at the Museum, "we will deeply miss our close friend and valued colleague, but fond memories of his engaging, jovial spirit will live forever in our hearts".

## PRESIDENT'S MESSAGE

The deadline to get my column to the editors of the Bulletin is sort of upon me. I had hoped to be able to announce the location and chairman of the 1983 convention in this column. No such luck. What to write about? Perhaps the lack of a convention location is something that is worth writing about.

We have talked to quite a number of clubs about their sponsoring the 1983 meeting. The last Bulletin contained an appeal for sponsorship. The clubs we talked to (both formally and informally) all had good reasons for not wanting to sponsor the 1983 convention. The many reasons were really one — it is too much additional work. The workers in the club are already up to their ears in work. There has been no response to my appeal for sponsorship in the last Bulletin probably for the same reason. How do we get membership participation for the convention? What are your ideas?

Along the same lines how do we get articles for the Bulletin? The editors tell me we have to stretch for the next issue and any backlog of articles is wishful thinking. This is unfair to our editors who also must be authors. Surely of the C.O.A.'s 600 plus members someone has gone on a collecting trip that's worth writing about. It may have been a once-in-a-lifetime trip, a so-so trip or even a lousy one but other members would like to hear about your trip no matter how it came out. Maybe you have acquired an interesting specimen you would like to boast about. Almost everyone has a bit of knowledge, an opinion, a story, a question, an idea that is worth sharing with the rest of the C.O.A. membership. How do we get you — yes you, to drop the editors a line?

The C.O.A. is your club. You are a member! What do you want from your club? What can you do for your club? Since I have been president I have not had a single letter saying anything good or bad about C.O.A. or letter with an idea. As far as I know none of your other officers have heard word one. Since we all like to get letters it would be sort of nice to hear from you.

A particularly nice letter would say: "Hey I would like to help C.O.A. by doing \_\_\_\_\_." You fill in the blank. Or perhaps; "Here is something I would like to see C.O.A. do for the membership. Maybe the reason we cannot obtain sponsorship for the 1983 convention is not the work but because there is no membership interest. Can this be correct after more than 200 came to Sanibel?"

I have sort of rambled on about this and that. The real point is that I'm not very good at twisting wrists particularly when I have run out of wrists. C.O.A. needs your help — the help of the membership. We need convention sponsorship, articles for the Bulletin, ideas as to how to make C.O.A. a better club or even what you don't like about C.O.A. Let's hear from you. Write or phone your editors or officers.

### STOP THE PRESSES!

#### C.O.A. Convention in Sarasota in September

We have just received word that the 1983 C.O.A. Convention will be held in Sarasota, Florida, September 21st thru the 25th. Those interested in presenting programs or papers please contact Convention Chairman, Dick Forbush, 1104 Sklar Dr. E., Venice, FL 33595 (phone 813: 488-6170). Further details will be given in the June Bulletin.

### GENETIC SURGERY

A shell-collector/exhibitor wrote in the description of a fine display of self-collected shells that he "went reefing for shells in sneakers and cut-off genes".

### PERFECTER SHELLS

A mail-order specimen seashell company received an order with the stipulation, "GEM or better"!

A SOUTH AMERICAN SOLAROPSIS

RICHARD GOLDBERG & BRUCE EINSOHN

The land shell fauna of South America is one of the most diverse of any province in tropical climates. They range from small non-descript Bulimulidae or intricately-toothed apertured odontostomids, to the large and solid *Strophocheilus*. One species that vies for the most beautiful of the helical shaped land shells, not only in South America, but the world, is *Solaropsis gibboni* Pfeiffer.

*S. gibboni* is rather rare in collections due to its inaccessible habitat. Records show that it has been found in the Amazon Basin region of Columbia and to the Andes jungles of Ecuador. It is a forest dwelling, camaenid snail, reported to live under ground litter and under downed trees. The illustrated specimens were collected at Puyo, Ecuador, near the villages of the Jibaro and Auca tribes — tribes which are still quite primitive and reputedly still engage in shrunkens head rituals and cannibalism, and use blowguns tipped with curare. It's no wonder that land shells from this area are so hard to obtain.

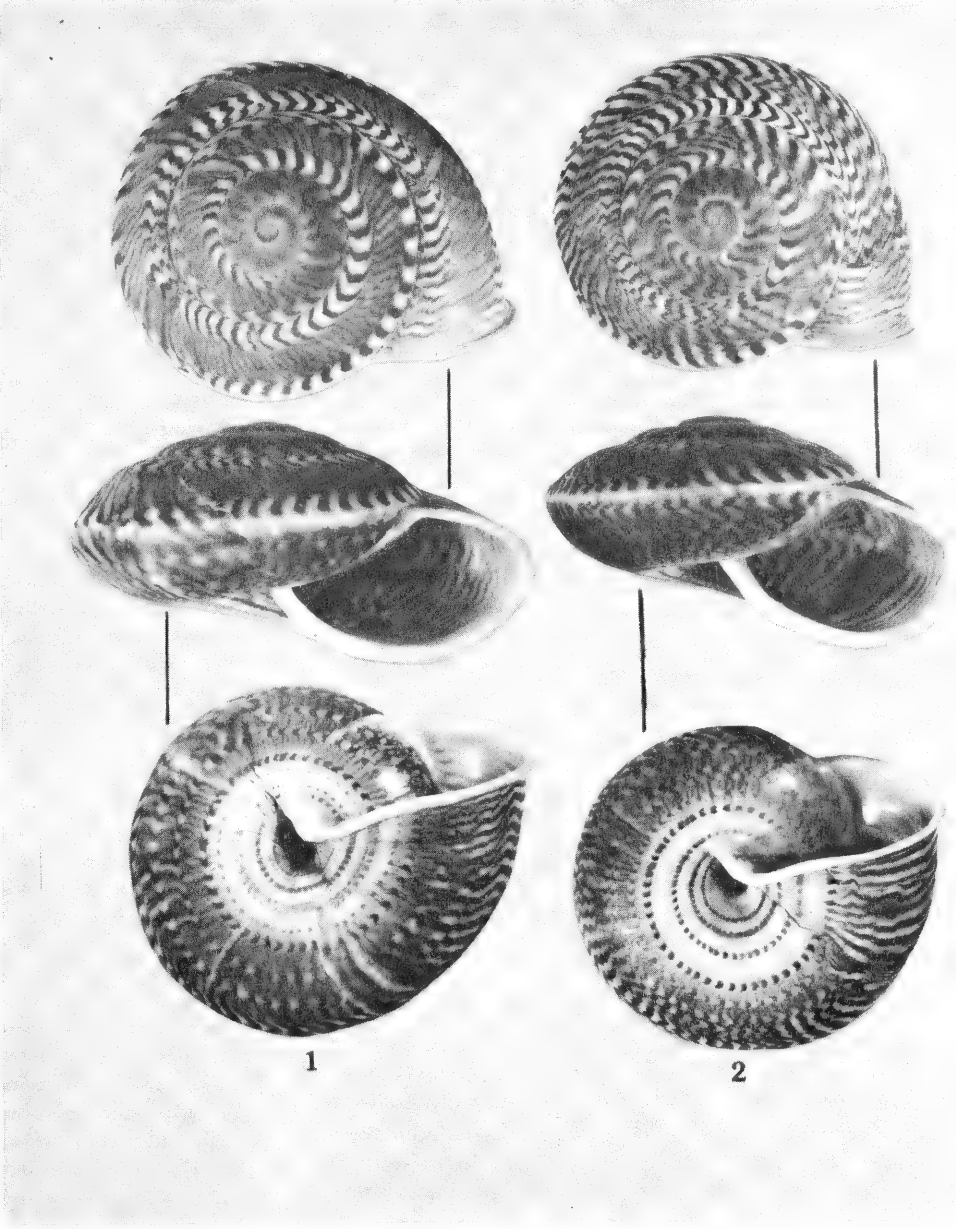
Adult specimens of this species range in size from approximately 65 mm to almost 100 mm in diameter, and it is the largest member of the genus. Its color is white with alternating reddish-brown axial lines. The two pictured specimens illustrate two distinct patterns that have been found. Figure 2 is obviously just a more well-developed patterned specimen and does not deserve any subspecific name.

The genus *Solaropsis* Beck, 1837, consists of more than 30 species ranging from Brazil and Peru, to Columbia and Guyana, and up through Central America to Costa Rica. The type of the genus is *S. peliserpentis* Chemnitz. Many of the species in this genus look like coiled snakes and an invalid syn-

onym of *Solaropsis* is *Ophidermis*.

In future articles I hope to highlight other spectacular and uncommon land shells from South America.

Fig. 1 & 2: *Solaropsis gibboni* Pfeiffer, Puyo, Oriente, Ecuador. Fig. 1-83mm; fig. 2-77mm. Photo: Richard Goldberg.



## WHO'S WHO IN C.O.A.

If you see the license plate "Cowrys" in northern California, you can be fairly certain Phillip William Clover, our third Vice President (1974-75), is nearby. Phillip has had a fascinating career as a private shell collector, later as a dealer, and is now semi-retired in Glen Ellen, located in California's Sonoma Valley. He and his wife Marjorie Joyce Clover, nee McClary, also own a summer home in the high Sierras.

Phillip was born in Oakland, California in 1934, and after two years at the University of California, he spent 20 years in the U.S. Navy, retiring in 1973 as Chief Petty Officer in Electronic Communications.

His attraction to seashells began in Sunset Beach, Hawaii in 1955, and continued through a tour of duty in Japan where he had the opportunity of meeting the famous collector, Emperor Hirohito, at a shell show. Some time later, in Spain, Phillip collected for the Smithsonian Institution. These foreign tours of duty led to his gradual extension into trading, buying, and selling.

Our subject is a Conchologist with a Capital "C", and at the young age of 48, he is an Elder Statesman of Conchology, and available for assistance to scientists, museums and others in the malacological field. He has travelled to more than 50 countries, and has dived for shells in all seven oceans of the world. His collection numbers over 25,000 lots, and includes perhaps more rarities than any other private collection in this country.

In 1966, Phillip acquired a 75 mm specimen of *Cypraea valentia* Perry, 1800, "The Prince of Cowries", not previously collected in over 100 years, and the first to be held in a private collection. Again, in 1978, he found a specimen of *Conus cervus* Lamarck, which had an identical history. (Phillip is listed in the 1982 *Guinness Book of World Records* as having refused \$10,000 for this specimen!) On the 15th anniversary of their wedding, he presented his wife with a new species of cowry which he had named for her, *Cypraea (Lyncina) joyceae* Clover, 1970.

Many scientists have honored Phillip Clover by naming his newly-discovered species for him: *Voluta (Lyria) cloveriana* Weaver, 1962, *Mitra (Subancilla) cloveri* Cernohorsky, 1971, *Marginella cloveri* Rios & Matthews, 1972, *Conus cloveri* Walls, 1979, to name but a few.

Phillip has written many scientific, and over 200 popular, articles on his special interests: *Conus*, *Cypraea*, *Latiaxis*, *Marginella*, *Mitra*, *Murex*, and *Voluta*, and he enjoys memberships in virtually every important conchological/malacological society in the world.

In our subject's opinion, "C.O.A. was the best thing to happen to the American shell collectors". In 1974, during his term of office, many shell collectors, both amateur & professional, had not met personally. In the intervening years, personal acquaintance among collectors has become the norm. He credits C.O.A.'s annual Dealers' Bourse as an important event which attracts new members to our ranks.

One fabled acquisition eluded Phillip for many years: a beautiful *Cypraea leucodon* Broderip was finally added to his holding in 1982.

What will you do for an encore, Phillip?

JAY J. TRIPP  
C.O.A. Secretary-Historian

## C.O.A. GRAND TROPHY WINNERS

Second Tri-State Shell Show, Cincinnati, Ohio, Oct. 1-3, 1982

winners: Marian and Thad Brzana

display: World-Wide Bivalves

The Brzanas, from Evergreen Park, Illinois, started seriously collecting shells 6 years ago though Marian, who has always loved shells and sea life, used them in floral arrangements and shell-craft over the past 29 years! They started exhibiting in August of 1981 where their "World-Wide Bivalve" display took a blue ribbon. The display has been expanded and upgraded to the present 11 cases, 30 linear feet in all. In addition to the C.O.A. Grand Trophy, the exhibit won the "People's Choice" award and a silver trophy for the "Most Beautiful Display".

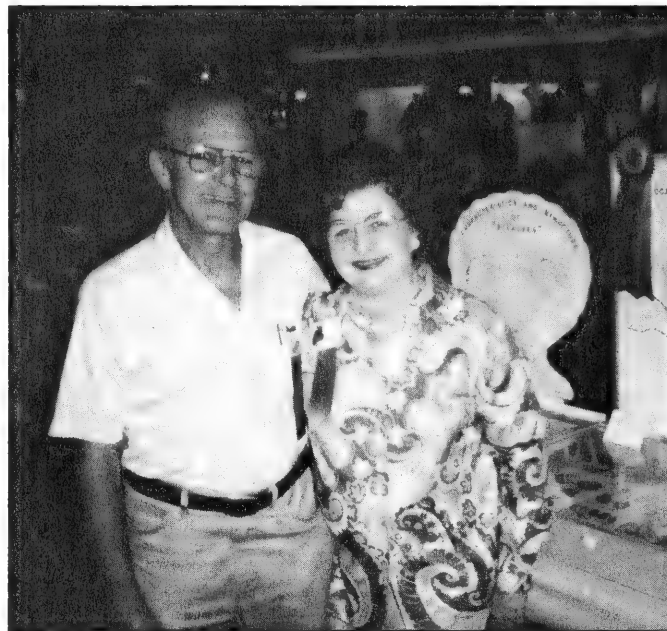


Fig. 1. Marian and Thad Brzana, Grand Trophy winners at the 2nd Tri-State Shell Show.

### ERRATUM

We apologize for a mistake in the citation of authorship of *Morum macdonaldi*. It was described by W.K. Emerson in 1981 in *The Nautilus*, not co-authored by A. D'Attilio as we indicated. In the same article Dr. Emerson also described the new *Morum joelgreenei*.

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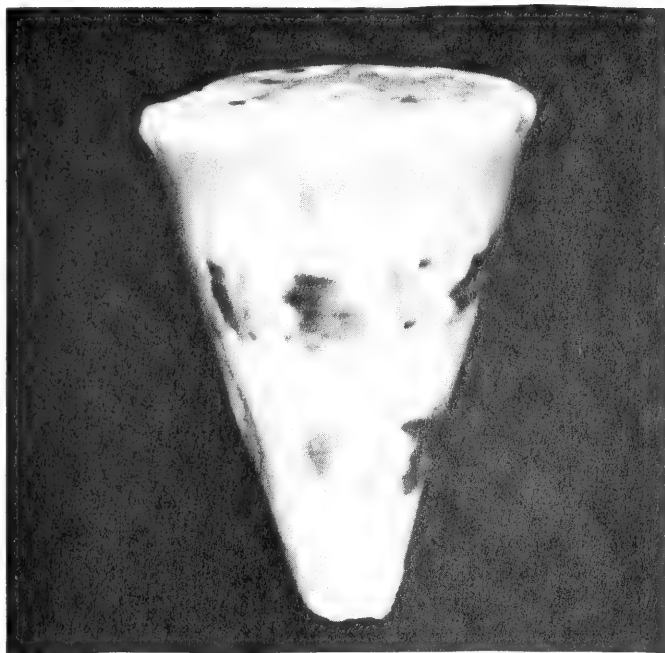
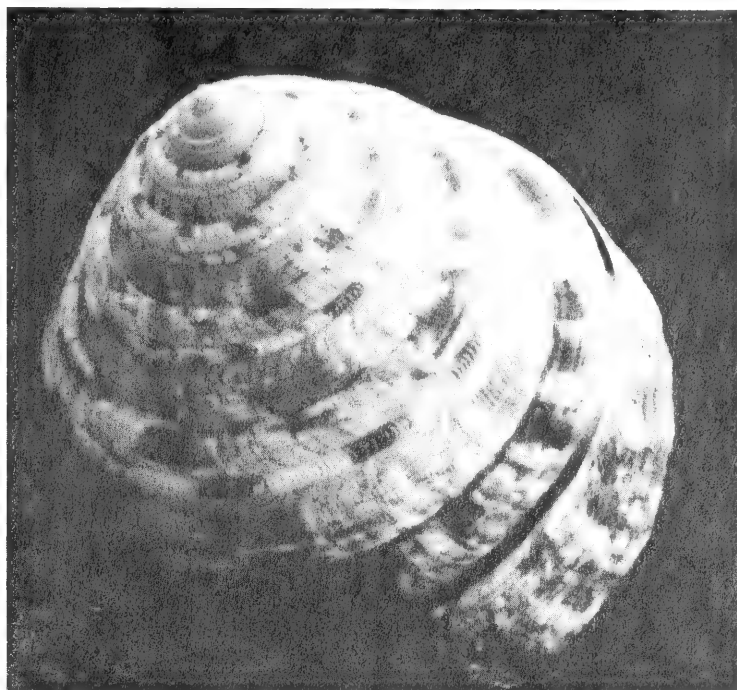


Fig. 1. *Conus visagenus* Kilburn, named for Mr. A. Visage in Durban, South Africa is one of the rarest of cones. This 35 mm specimen was trawled in 180 fm off Natal in 1975. Fig. 2. (above, right). *Pero-trochus adansonianus* Crosse & Fischer, an exceedingly rare "slit shell", this 135 mm wide specimen was taken live by SCUBA in 300-350 ft. off the Grand Bahama Banks (we don't recommend hunting for it to any of you who are divers. . . . it has proved fatal to some)!



## SHELLS FOR THE AMATEUR

by C. GLASS & R. FOSTER

Some have questioned the selection of shells "for the amateur". We point out to them that *amateur* means "lover", not beginner or novice. An amateur participates out of love, not for money. . . . We are *all* amateurs — as far as shells are concerned!

Fig. 5. (below, left). *Latiaxis cristatus* Kosuge, a 35 mm specimen of this newer, deep water species from off Mactan Island, Cebu, Philip-pines, considered by some to be indistinguishable from *L. gemmatus*.

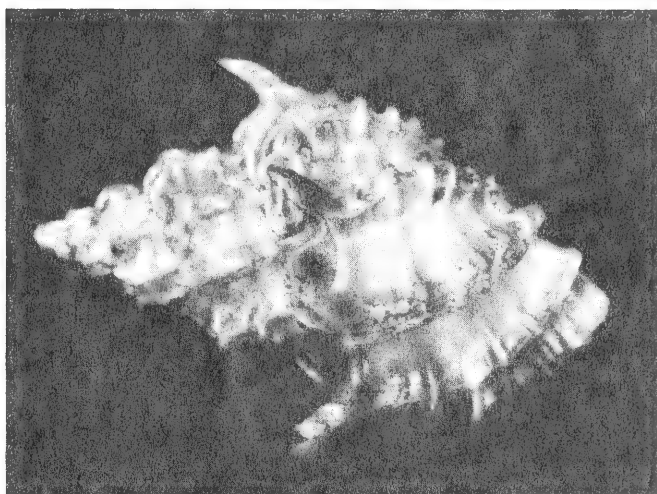
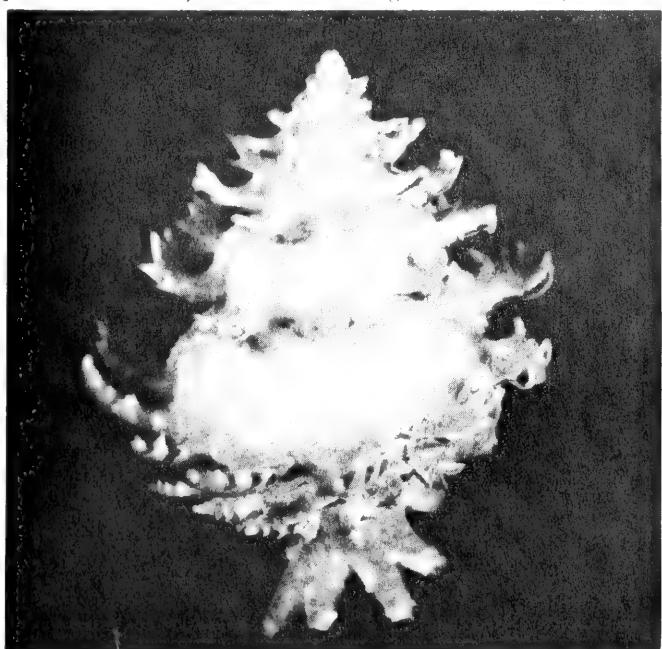
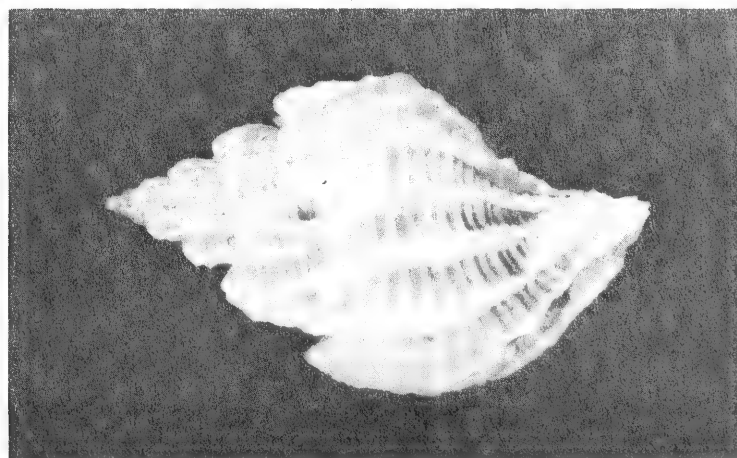


Fig. 3. (above) *Cancellaria centrota* Dall from 400 ft. deep in the Gulf of California, a 25 mm specimen. Fig. 4. (below, right). There is some question whether this shell is *Trophon geversianus* (Pallas), under which name it is usually encountered, or the closely related *Stramonitrophon laciniatus* (Dillwyn), both from the Magellanic region of the southern Atlantic. This 45 mm specimen, originally from the Calvert Collection, was taken off the Falkland Islalnds (before most of us had heard of them).





## TEXAS STATE SHELL SHOW

The Coastal Bend Shell Club hosted the "Texas State Shell Show", October 29, 30 and 31, in the beautiful new Bayfront Plaza Convention Center overlooking Corpus Christi Bay. The show was a celebration of the club's 25th anniversary. We were very fortunate to have three exceptional judges, R. Tucker Abbott, Jean Andrews and Myra L. Taylor.

With much greeting of old shelling friends, visiting and making new acquaintances, exhibits were assembled on Friday, the 29th. That evening Corpus Christi State University hosted a lecture by Tucker Abbott on "Zoogeography of Marine Mollusca." The next morning the judges met to begin the task of determining the exhibits most deserving of receiving the trophies and ribbons to be presented. There were 63 exhibits, about 400 feet, of informative, artistically done displays for the judges to consider. It wasn't an easy job. An awards luncheon was held at the Travelodge with about 60 attending. Albert Heine, director of the Corpus Christi Museum, because of his long, close relationship with the club, gave the welcome address amid peals of laughter. His description of the trials of dealing with small children and animals on television delighted the audience. Trophies were then presented to the deserving recipients. The duPont going to Bernard & Phyllis Pipher, Tekamah, Nebraska, for an outstanding 42 foot display of world wide cones. The COA trophy was awarded to the same couple for a spectacular exhibit on lyropectens that was easily the most beautiful case in the whole show. "Shell of the Show", from any source, was presented, again to the Piphers, for the huge, red *Lyropecten magnificus*. "Shell of the Show, Self-collected", was awarded to Theresa Stelzig, Portland, Texas, for a *Conus granulatus* she collected live off the reef in Belize, Central America. Being the Texas State Shell Show there had to be a trophy for the best Texas collection and there were many fine exhibits in this category but great attention to detail paid off for Harold & Frieda White, Angleton, Texas, who took this trophy home. The sweepstakes trophy was awarded to the person with the most ribbon points. Janey Moore, Clute, Texas, who came early and worked until late Friday night. She was easily the winner of this trophy; no one really came close.

Fig. 1. Harold and Frieda White accepting the Texas Trophy from Jean Andrews.

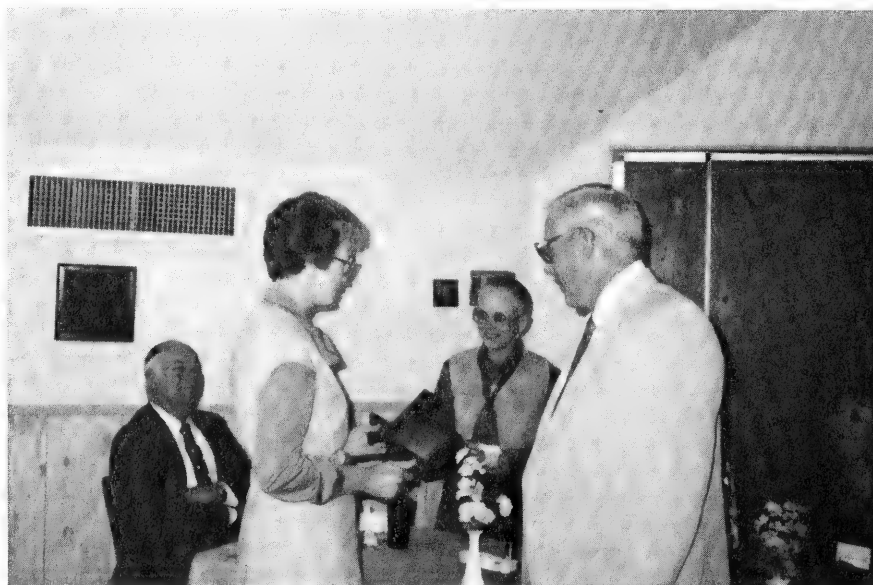


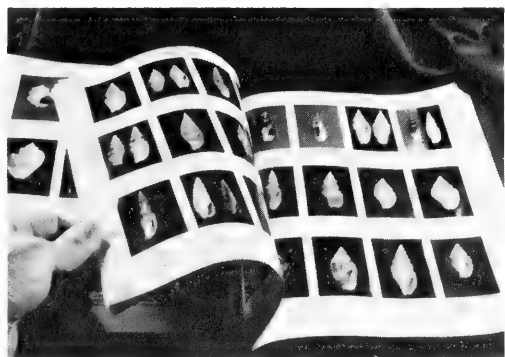
Fig. 2. Theresa Stelzig accepting "Shell of the Show, Self-Collected" Trophy from Myra L. Taylor, with R. Tucker Abbott joining in the applause.

After the luncheon shellers had a choice of going to the opening of the show, going shelling by boat to the Spoil Islands in the bay, where most shellers visiting our area never get to go, or striking out on their own shelling expedition.

Our thanks go out to the judges, the dealers and the show exhibitors; it would not have been possible without you. There were eleven dealers from all over Texas and Florida; their booths were enjoyed by the shellers and visitors to the show alike. There were the usual amount of crises — last minute shifting of exhibits to cover spaces where an exhibit didn't show and another you didn't expect arrived, some who needed pens, paper, tape, scissors, glass cleaner, etc., all at the same time so that there was constant hurry, hurry. But all this still can't take away from the enjoyment of a show.

In closing, I'd like to say: support your local shell show, and if you don't have one. . . . organize one -- you'll love it.

Theresa Stelzig  
Show Chairperson



## SHELLS IN PRINT

by RICHARD L. GOLDBERG

### COMPENDIUM OF SEASHELLS by Abbott & Dance

Amateur and professional conchologists alike will hail the January 1983 release of Abbott and Dance's *COMPENDIUM OF SEASHELLS* (E.P. Dutton, Inc., New York). Webster's Dictionary defines "compendium" as a "concise but comprehensive treatise", and a more appropriate word to describe this book cannot be found.

*COMPENDIUM* is a large-format hard-cover volume with 411 pages covering over 4,200 marine shells. The book is illustrated throughout with exceptional quality color plates (see picture) on a high quality coated stock paper. Each shell is illustrated showing the best possible view for identification. In many cases a number of views are shown to better illustrate the species or variations.

A feature which will make *COMPENDIUM* of special value to the professional as well as advanced amateur collectors is the picturing of the type specimens of many species — this work probably contains illustrations of more type specimens that ever published in one volume. Many other species figured here have never been published in any popular conchological literature.

In a work this size and general nature (world wide marine shells) Abbott and Dance have diverged from the typical alphabetical grouping of species within a family. The species are grouped by geographical locality, e.g. Indo-Pacific & Japanese cones, West African & South African cones, Florida & Caribbean cones, etc. Within these family and geographical grouping the species are then grouped by similar look, to help facilitate identification of an unidentified shell. Probably due to the great amount of juxtapositioning involved in laying out *COMPENDIUM*, a few species got separated from their geographical or generic grouping, but this does not detract in any way from its usefulness.

The format provides a quick reference, with the picture and brief accompanying text directly below. Each species' text includes the common and Latin name, author, date described with the most recent generic placement for the species and average adult size in inches and centimeters. Other information given includes geographical distribution, habitat (water depth), availability (common, rare, etc.) and sometimes an identifying characteristic, synonym or other pertinent information about the species. Type material illustrated is mentioned as such. The authors have obviously done much research into the needs of the amateur collector, as this format provides the ultimate general reference book for collectors and will undoubtedly be a first choice for identifications before referencing books of a more specific nature.

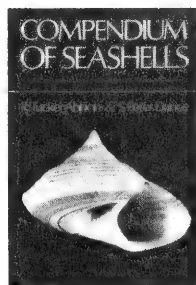
The selection of species to illustrate in *COMPENDIUM* must have been a difficult decision for the authors, but they have covered the popular and unpopular families extremely well. In a quick glance

through the book certain families stand out as being covered more comprehensively than ever before including Pleurotomariidae, Haliotidae, Fissurellidae, Cerithiidae, Naticidae, Cymatidae, Buccinidae, Cancellariidae, Polypalcophora (chitons), Pectinidae, Cardiidae, and Veneridae. These, obviously, are the less popular families and will make *COMPENDIUM* even more useful for identification.

Of added interest to the advanced collector is the Taxonomic Classification-Bibliography section of the book. A listing of all the major scientific journals and their publishers' addresses will be useful for those looking to subscribe to some of them. The taxonomic classification outlines the mollusca down to the family level with the major genera cited. Within each family are listing of useful publications and monographs that the reader can reference for further information about the group.

Of course, after all is said and done, there will undoubtedly be those who criticize some of the nomenclatural classification of certain species, but a work of this size cannot be all things to all people. Abbott and Dance have been very conservative in their classification, tending to lump instead of split certain species. They have listed these shells as subspecies or synonyms, but ultimately the collector will decide how to classify the shell in his or her collection.

The usefulness of *COMPENDIUM* can never be denied, and will stand as the best general reference for marine shells for many years. The list price is \$50.00 and can be obtained through American Malacologists, Inc., P.O. Box 2255, Melbourne, FL 32901, or your favorite conchological book dealer.



### SEASHELLS OF OMAN by Don & Eloise Bosch

An area that has long been neglected in the conchological literature is the Arabian Peninsula/North Western Indian Ocean.

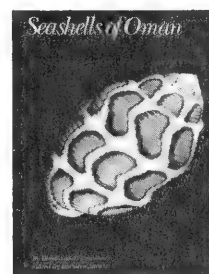
Many shells from this area have been coming into the United States for some time, but there were no popular books to help identify the local and endemic species. This problem has been solved with the publication of *SEASHELLS OF OMAN* (Longman Group Limited, London) by Donald and Eloise Bosch.

Don and Eloise are no newcomers to the shelling world, what with 27 years of collecting experience in Oman. They are responsible for the discovery of many new endemic species, some named for them. One of the most outstanding of these new species, *Acteon eloiseae* Abbott, 1973, graces the cover of this slick, hardcoverd, 206 page volume.

The book covers all species of shells likely to be encountered while reefcombing or diving for shell in Oman. Each species is grouped by family, giving Latin name, author and date described, and all pertinent information relative to the species (size, brief description, habitat, distribution and availability in Oman — common, uncommon, etc.). All plates are in color and illustrate shells actually found in Oman — in certain cases this means a few were illustrated as beach or dead-collected, probably not being found commonly in live condition. The text is on the same page as its illustration which quickens referencing the species. The introduction includes the typical information about shells, but in addition adds pertinent information about these topics that are peculiar to Oman. A map of Oman is included.

The photography is very good, and in many cases illustrating many views of the same shell. As mentioned before, certain species have been pictured here for the first time in any popular literature.

*SEASHELLS OF OMAN* is a must for any collector specializing in western Indian Ocean shells or building up a solid library of regional conchological books. It is available in the United States through Longman Inc., 19 West 44th Street, New York, N.Y. 10036. It lists for £16.50 or approximately U.S. \$35.00



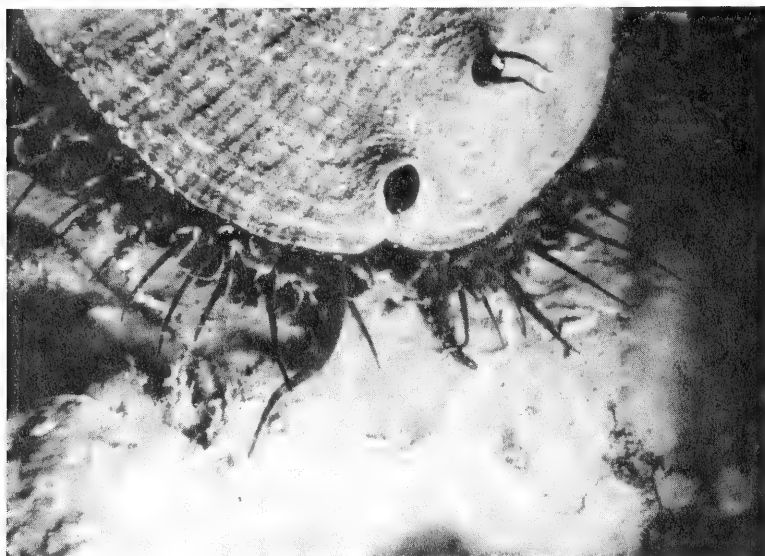


Fig. 1. The front end of a red abalone, *Haliotis rufescens*, showing part of the epipodium with its tentacles and lacy, black fringe. Fig. 2. (above, right). This red abalone, photographed in the ocean off Santa Rosa Island, had been tagged for a research project. Photographs by Bill Hagey.

## CALIFORNIA SEASHELLS PART III: HALIOTIS (HALIOTIDAE) CHARLES GLASS & ROBERT FOSTER

Outside of conchological circles, among the best known groups of shells are undoubtedly the abalones or members of the genus *Haliotis*. They are known partly for their decorative shells, used for souvenirs, ashtrays, shellcraft and even Mother-of-Pearl buttons, and for the delicious and increasingly rare delicacy, abalone steaks! The name, *Haliotis*, which dates officially from Linnaeus in 1758, is derived from the Greek words *hali* meaning "sea" and *otos*, "ear". The "sea ears" are large, loosely coiled, rather flattened shells with a row of open and obsolete holes or vents along the left or outer margin of the shell which serve for water circulation. The interior of the shells is nacreous and highly ornamental for its iridescent silver, blue-green and pink toned "Mother-of-Pearl". The interior may bear a "muscle scar" or rougher area where the muscle was attached. Both the excurrent openings and the nacreous interior are considered to be primitive characters and, indeed, the family has been around for a long time, over a hundred million years. It is placed within the Superfamily, Pleurotomariacea, along with "slit-shells", another primitive, old group.

One authority states that there are over 50 species of *Haliotis*, another that there are under a hundred, and a third that there are over 130 taxa (species and subspecies). This is unfortunately, frustratingly but necessarily vague, for not only do few authorities agree on which are synonyms, good species or merely subspecies, but new taxa keep coming up as well.

The range of *Haliotis* from the British Isles and eastern Europe into the Mediterranean and down along the west coast of Africa, across the Indian Ocean through most of the western Pacific (not including Hawaii), up the eastern coast of the Soviet Union and along Alaska, down the west coast of North America to the tip of the Baja California peninsula. Except for an isolated and rare species which occurs around the Galapagos Islands off Ecuador, *Haliotis dallii* Henderson, 1915, there are no species known off the west coast of South America. In Chile, "locos" or "Chilean abalone" are prepared

and eaten like abalone, but they are really a species of large *Concholepas*, not a true *Haliotis*. A small species,  $\frac{1}{2}$  to 1 inch in length, *H. roberti*, was named by H.J. McLean in 1970 from Cocos Island off Costa Rica, and, on the Atlantic side of the continent, *H. pourtalesii* Dall, 1881, ranges from off North Carolina around Florida and Texas and supposedly south to Brazil, but otherwise there are probably no species to be found along the east coast of North and South America. We say "probably" because there is still a lot of South American coastline to be explored. *H. barbouri* was named by Foster (not our R. Foster) in 1946 for an empty shell found at Praia de Copacabana, Brazil, but this is thought to have been merely a specimen of a Polynesian species which did not occur there naturally.

Fig. 3. An old abalone shell found in an Indian midden on one of the Santa Barbara Channel Islands. Photo Bill Hagey.



Though the range is large, most species are small and relatively insignificant (except to shell collectors). Only off South Africa, Australia, New Zealand, Japan and California are there species large enough to be of commercial importance. In Australia, which has the largest number of species, the common name for the local species is "mutton fish" or "ear shell"; New Zealanders call theirs "paua"; in South Africa it's "Venus ear shell" or the Afrikaaner "perlemoen" and in England they're "ormer". The Japanese name is "awabi". In California they are called, of course, abalone, and California is blessed with the greatest number of large species, 7 or 8 (again depending on your authority) relatively large, edible types of abs!

The taking of abalone (or in SCUBA lingo, "popping abs") is strictly regulated by the Fish and Game Department. A fishing license is required of any person over 16 years of age. There is a daily limit which currently is only 4 in any combination of species. Abalone may be taken only during the day (a half hour before sunrise to a half hour after sunset) and may be taken only by hand or by a device called an abalone iron similar to an automobile leaf spring, less than 36 inches long and not less than three-quarters of an inch wide or than 1/16th of an inch thick. One reason for the specified thickness is that abalones are "hemophiliacs" with no mechanism to coagulate the blood, and as they may be easily wounded with a knife or similar sharp tool, they may bleed to death. One removes or "pops" an abalone by quickly sliding the iron under the shell and foot and levering up (not down). One must be reasonably fast or else the animal will clamp down with about 400 lbs. of pressure per square inch, enough to bend most irons! Red abs must be a minimum of 7 inches long; pink, white or green abalones must be at least 6 inches long; blacks 5 and all others 4 inches. They may not be taken by SCUBA but only by free diving north of Yankee Point in Monterey County, California.

We should not leave the subject of collecting live abalone without at least some discussion of preparation for eating this marine *escargot*! The regulations stipulate that abalones not attached to the shell may not be transported or possessed except when being prepared for immediate consumption. To prepare it for consumption, one may remove the animal either with an ab iron, knife or even tough fingers. The viscera may easily be removed by trimming the skin around the top of the muscle which is the bulk of the animal and cutting a deeper notch around the animal's business end. The epipodium, or lacy fringe bearing tentacles and sensory processes which encircles the foot, should be removed and then the rest of the muscle including the sole of the foot trimmed (or skinned). The muscle is then sliced up into 1/4" thick "steaks". These must then be pounded quite thoroughly. The authors subscribe to the belief that one cannot over-pound an abalone steak, as long as one can still pick up the laced product! These pounded steaks may then be frozen or cooked immediately. We also prefer to wash the steaks as much as possible to remove most of the slime!

There are many recipes for preparing abalone but the simplest and in our opinion the best is simply to bread the steaks in eggs and corn-flake crumbs, fry in a hot, well-buttered pan for only 30 seconds on a side, and then liberally brush with melted butter and lemon juice. Enough for the gastronomical aspects of these gastropods! Being shell collectors, eating abalone steaks is only a means to an end: a tasteful way of removing the animal from the shell, to prepare the shell for the collection!

Abalone cleaning is not an easy procedure. The best cleaned abalone shells we have seen were prepared by our friend, "Rare-Oil" John Phillips, so we think it worthwhile to publish "The John Phillips Method for Cleaning Worldwide Species of Abalone (*Haliotis*)":

1. After collecting the Abalone, allow empty shell to dry naturally in sunlight; this is a procedure that allows the various marine encrustation to fully dry.
  2. Use a hand wire brush to strip back of shell from all loosely-clinging marine debris.
  3. Use a hammer or hatchet to knock all barracles and tube worms from back of shell.
  4. Some folks hand pick the tough debris and lime encrustations from the back of the shell, but I personally prefer to use a bench, electric grinder/buffer with wire brushes attached to the motor. This will remove the very worst types of 'crud'. Grind *everything* from the back of the shell right down to the natural surface of the specimen. At this point, on many worldwide species of *Haliotis*, including several of our California species, you will notice a brown-colored 'skin', or periostracum, remaining on the shell. The next step will remove this! Caution: Do not strive to remove periostracum with any type of acid!!!
  5. Next, place the shells in a bath of *straight* Purex or any household *Bleach*; I like to use the very strongest bleaching agent, which is pool chlorine. These may all be purchased at any hardware or grocery store, or at a swimming pool supply building.
  6. Always use rubber gloves when handling anything that is cleaned with bleach or acid! After allowing the shells to soak in the bleach for one half hour to perhaps one full hour on some species, remove the shells and *wash thoroughly* with fresh water. Incidentally, all of these cleaning steps, from step one forward, should be carried out in *well ventilated areas*; furthermore, gloves and gauze masks should be worn, especially when grinding the debris from the backs of the shells.
  7. After a decent and thorough washing with fresh water, use a paint brush, or an *acid brush* (available at hardware stores), and *paint on one coating of muriatic acid* (also available at most hardware stores) on *back of shell*. The initial reaction will cause a bubbling and fizzing on the surface of the shell; this is done to bring out subtle, underlying coloration in the shell, *not* for removing any encrustations. After one-only coating of acid on the back of the shell, turn the specimen over and pour a small amount of acid into the interior of the shell, directly onto the mother-of-pearl. Use your rubber gloves and smear the reacting acid all over the interior with your fingertips. This step is for removal of all discoloration and staining from the lovely mother-of-pearl. Sometimes it is necessary to repeat the above step several times on the *interior* of the shell; the way to tell is to allow the reaction to run its course, then wash the interior off with fresh water and eyeball the mother-of-pearl for satisfactory or unsatisfactory results.
- Remember: always have plenty of fresh water handy while using muriatic acid, as the water will neutralize any undesirable reactions on shell *or skin*.
8. After the acid procedures, allow the shells to dry in direct sunlight, then brush on any type of *mineral oil* on the inside and outside of the shell. Allow shells to sit for awhile with the messy oil on them; this gives the shell a chance to fully absorb certain quantities of oil into its pores. Afterwards, wipe the excess oil off with a cloth and you have beautiful specimens ready for any spot in the home or collection. The



coating of mineral oil should be repeated as necessary (when-  
ever the shell takes on a dried-out, dull appearance).

We also think that a key of both the living animals and the  
shells of the California species would be of value both to the  
sportsman and conchologist:

#### KEY TO THE CALIFORNIA SPECIES OF HALIOTIS

- A. Epipodium black; shell black on exterior or with red margin on  
inside edge:
  - B. Shell large, 7-10+'' long, wavy, brick red, with elevated  
holes; interior with large muscle scar and red margin:  
..... *H. rufescens*
  - BB. Shell small, 3-7 (mostly 5)'' long, smooth, black, holes flush;  
interior pearly white, without muscle scar: ... *H. cracherodii*
- AA. Epipodium mottled black and white or yellowish, greenish or  
brownish; shell not black and without red margin inside:
  - C. Epipodium lacy, mottled black and white; shell with pro-  
nounced spiral and diagonal ridges producing corrugated  
effect: ..... *H. corrugata*
  - CC. Epipodium yellowish to greenish to brownish; shell without  
both pronounced spiral and diagonal ridges:
    - D. Interior of shell with prominent muscle scar and dark  
blue-green iridescence. .... *H. fulgens*
    - DD. Interior of shell without muscle scar, with pearly white  
iridescence:
      - E. Shell relatively undulate:
        - F. Shell exterior reddish brown, not mottled;  
often 6'' long or more  
..... *H. sorenseni*
        - FF. Shell exterior reddish brown mottled with  
white and blue; 6'' maximum length  
..... *H. kamschatana*
      - EE. Shell not particularly undulate:
        - G. Shell relatively high, oval: ..... *H. assimilis*
        - GG. Shell low, rather flattened, elongate:  
..... *H. walallensis*

*Haliotis rufescens* Swainson, 1822, the "Red Abalone", is  
the largest species of *Haliotis*; it is also the largest gastropod  
found in California waters and commercially it is the most  
exploited. The annual commercial harvesting of red abs  
for the years 1965 to 1974 was eighteen hundred and forty tons  
a year! Red abalones are being grown under controlled,  
artificial conditions but it is not yet economically feasible to  
grow them on to harvestable size under mariculture. Exper-  
iments are being performed to try to farm the small shells out  
in plots in the ocean, but this too is both an expensive and  
risky venture.

The largest known *Haliotis rufescens* approaches 12 inches  
in maximum diameter but a 9 or 10 inch shell is rare indeed  
these days and one is rather lucky just to find shells that are  
over the 7'' minimal size sport limit (or 7¼'' commercial  
limit). Habitat depth range is given as extending from inter-  
tidal in the northern portion of the distribution to a maximum  
depth of 540 ft.! Maximum concentrations undoubtedly occur  
intertidally to 60 or 80 ft. The distribution ranges from Coos  
Bay or Sunset Bay, Oregon to Tortuga Bay, Baja California,  
but the species is more common in the northern half of this  
range, perhaps partly at least because of commercial collect-  
ing pressures. In southern California red abs may still fairly  
easily be found near Point Conception and Coho Anchorage  
and off Santa Rosa and San Miguel islands. Between Point  
Conception and Monterey, the return of the sea otter has  
pretty well eliminated the red abalone, but it becomes  
plentiful north of San Francisco, particularly in Mendocino  
County.

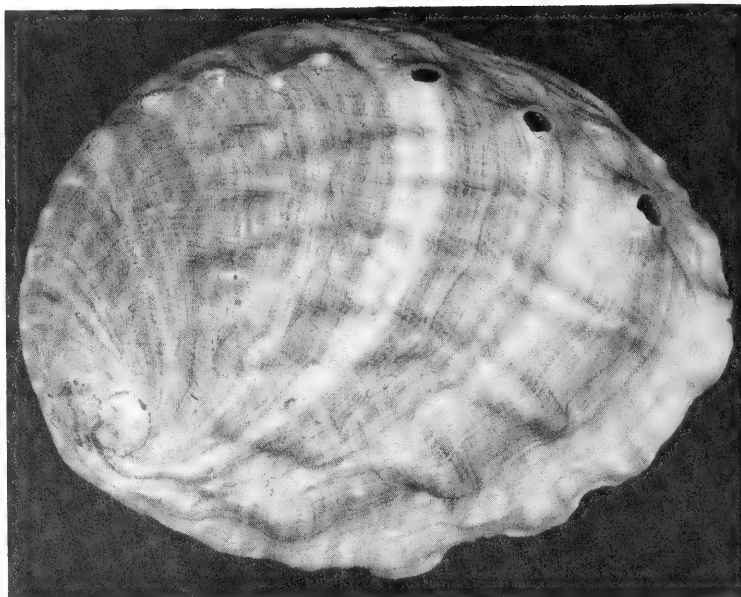


Fig. 4. *Haliotis rufescens*, "red abalone", a 7½'' specimen, brick red  
with paler bands, the banding apparently caused by change of diet.

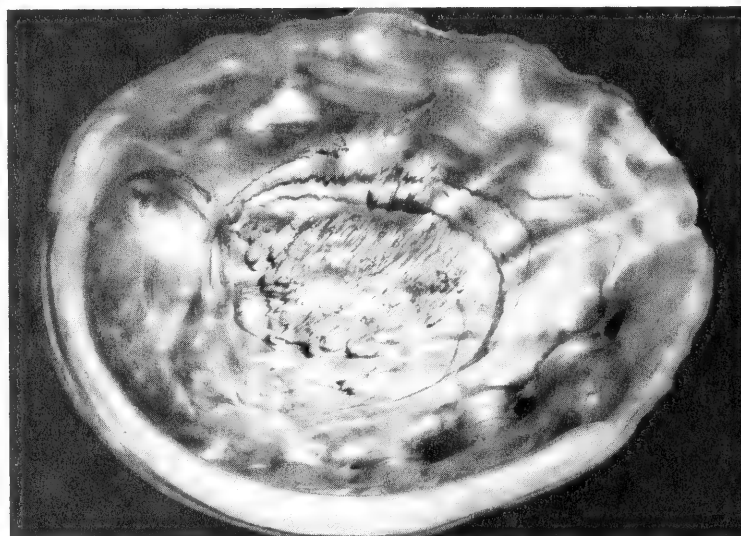
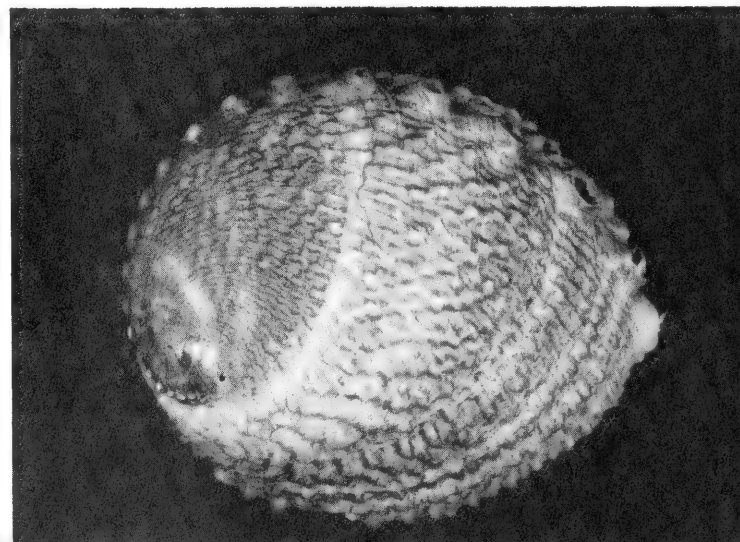


Fig. 5. *H. rufescens*, interior of shell pictured in figure 4.

Fig. 6. *Haliotis corrugata*, "pink abalone" this 6½'' specimen, brown-  
ish with paler bluish and reddish bands, (Abbey Specimen Shell #81-  
122) was taken in 40-50 ft. of San Clemente Island.



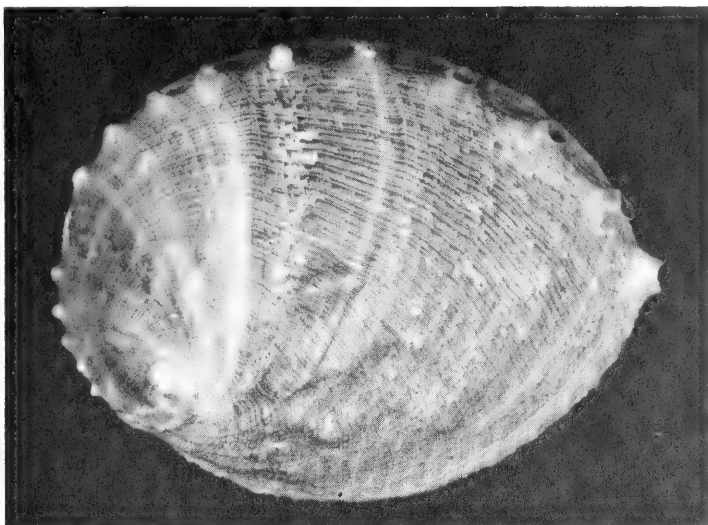


Fig. 7. *Haliotis sorenseni*, "white abalone", a 6½, pinkish brick-red shell (AbS 81-3429), from deep water off San Clemente Island.

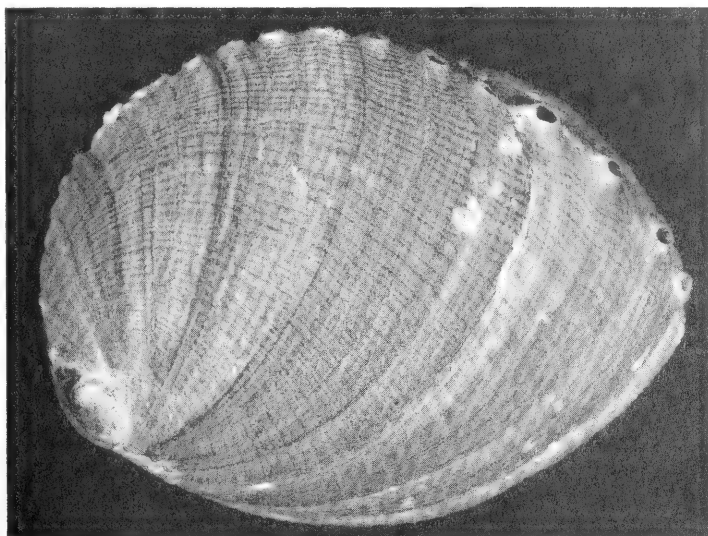
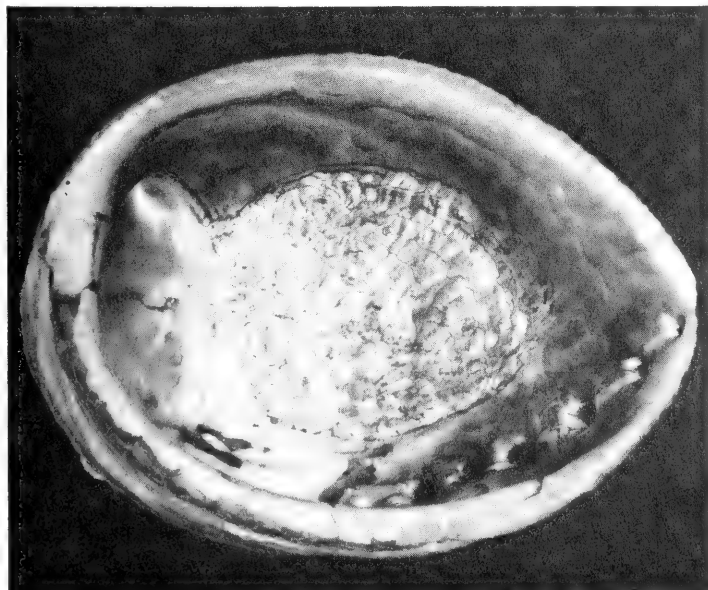


Fig. 8. *Haliotis fulgens*, "green abalone", a 7" shell (AbS 81-2802) from Portuguese Bend, California.

Fig. 9. *H. fulgens*, interior of shell pictured in figure 8. Many consider this species the most beautiful for its dark blue-green iridescence.



The shell is rather lumpy and undulating and generally a dull, reddish brown, occasionally with pink, whitish or greenish banding. Color is thought to be a result of diet, red shells feeding predominantly on red algae. There are generally 3 to 4 elevated, open holes. There is a narrow margin of red inside the edge of the shell which makes identification fairly easy. The exterior of the shell is often attacked by a boring yellow sponge, *Cliona celata*, which can eventually disintegrate the entire shell! The inside is an iridescent silver with shades of greens and blues and a prominent muscle scar. The epipodium is dark gray to black.

*Haliotis corrugata* Wood, 1828, the "pink abalone" is the species most commonly collected these days around the Santa Barbara Channel Islands. As is pointed out in the California Fish and Game Department's "Guide to Common Southern California Abalone", the "pink abalone" is usually everything but pink; in Mexico it is referred to as the "yellow abalone". The external shell color ranges from dull green to reddish brown and is sculptured by strong spiral and diagonal ridges which give it its characteristic corrugated appearance. There are 2 to 4 open holes on tubular projections. The shells supposedly may attain a maximum length of about 10 inches but 6 inch shells are average and the legal minimum size. The shell shape is almost circular. The interior iridescence is predominantly pink, which is probably what gave the species its perplexing common name. There is a prominent muscle scar with green and pink iridescence. The epipodium of the live animal is lacy and mottled black and white which offers the easiest means of identification of the live animal, along with the corrugated texture of the shell exterior.

Pink abs are usually found in giant kelp (*Macrocystis*) beds and feed on various types of drifting algae. They are most common in 20 to 80 feet of water but may occur as deep as 180 ft. The range is from Point Conception west of Santa Barbara to Asuncion Island and Turtle Bay in central Baja California. Orcutt named a variety *diegoensis* in 1919 but it is generally not recognized as distinct.

In the early 70's the annual commercial catch of pinks averaged only 205 tons but in the 50's it peaked at 1,750 tons in one year! While young pinks will graze, mature animals will occupy a permanent position on a rock and feed by capturing algae which drifts by. With the amount of sport diving which is done around the Channel Islands the pink abs are becoming increasingly scarce. We have visited some areas, such as San Pedro Point at the east end of Santa Cruz Island, where in 1981 *H. corrugata* were abundant in only 30 ft. of water, but in 1982 they were uncommon except at depths over 50 ft.!

*Haliotis sorenseni* Bartsch, 1940 is commonly referred to as the white abalone, presumably because of the pearly white nacreous interior of the shell which is without muscle scar. The shell is reddish brown with diagonal undulations and fine spiral ribbing. There are 3 to 5 open holes on tubular projections. The epipodium of the live animal is beige, lacy and mottled with yellowish green. The white ab is a fairly deep water species, rarely found under 70 ft. (though a few have been taken in 30 to 40 feet off some of the Channel Islands, such as the backside of Anacapa). They are typically found in 80 to 100 ft., but may occur at 150 to 200 ft. They range from Point Conception to Asuncion Island in central Baja California, basically the same range as *H. corrugata*, but they are more common around the islands. Also, like *H. corrugata*, the legal minimal size limit is 6 inches. The meat is said to be so tender that pounding is not necessary!

*Haliotis fulgens* Philippi, 1845 is referred to in California



Fig. 10. *Haliotis cracherodii*, "black abalone", a 6", exceedingly rare orange-brown form of this common species. AbS 81-057 from the tip of Point Conception in 6 to 10 ft. of water.

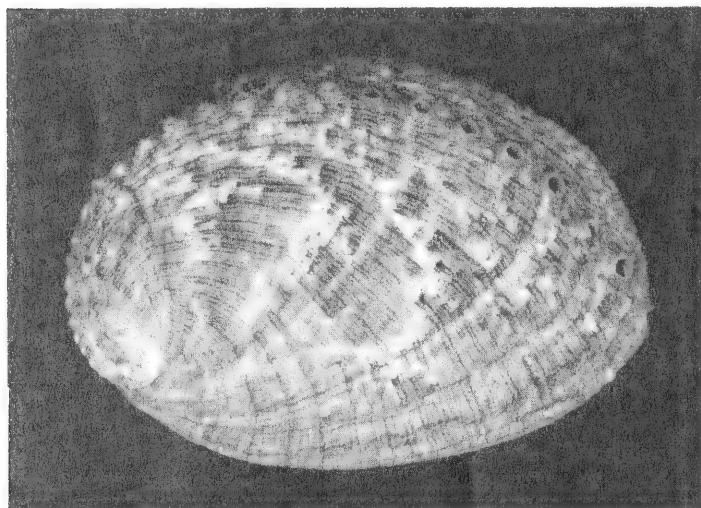
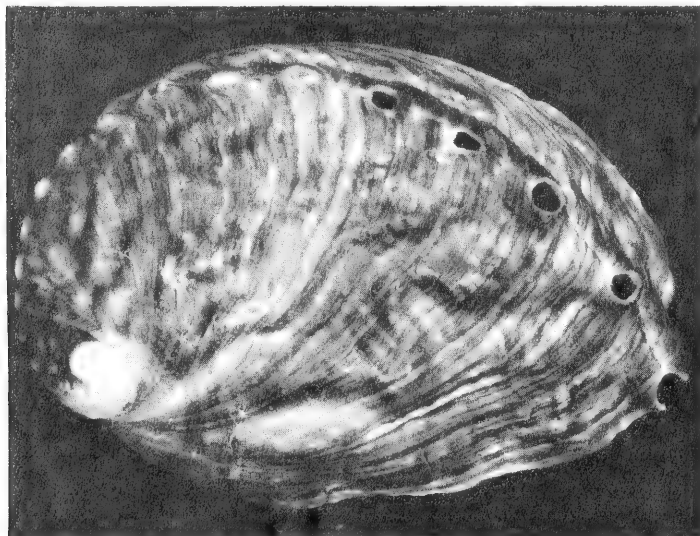


Fig. 11. *Haliotis walallensis*, "flat abalone", a 4¾" shell (AbS 81-065) from 90-120 ft., under rocks, at Coho Anchorage near Pt. Conception.

Fig. 12. *Haliotis kamschatkana*, a specimen just under 4" long (AbS 81-2741) from 20 ft. off Vancouver Island, British Columbia, Canada.



as "green abalone"; in Mexico it is known as "blue abalone". Again, the color seemingly refers to the principal iridescence which in the case of *H. fulgens* is a rich bluish green. There is a well developed muscle scar. The exterior of the shell is brown to olive green to reddish brown or greenish brown, relatively low, sculptured with fine spiral ribs and perforated with 5 to 7 slightly raised, roundish holes. Like *H. corrugata*, shells may attain a maximum length of 10 inches but 5 to 8 inch shells are typical and 6 inches is the minimal size limit. The epipodium is scalloped and olive-green mottled with brown and with beige green tentacles.

The green ab is basically a shallow water species, generally found in 10 to 20 ft, seldom deeper than 25 to 30 ft. but occasionally as deep as 60 or even 80 ft. We have found it to be quite common under boulders and in crevices, with moray eels and eel grass, in only 3 to 6 feet of turbid water around "boiler rocks" along the south end of San Clemente Island. Apparently their depth range is dependent upon the presence of red algae. The geographical range is from Point Conception to Magdalena Bay, Baja California. There is a subspecies *guadalupensis* Talm. which is smaller and sometimes recognized, but *H. splendens* Reeve, 1846, *H. revea* Bartsch, 1942 and *H. turveri* Bartsch, 1942 are generally regarded as straight synonyms.

*Haliotis cracherodii* Leach, 1814, the "black abalone" is the easiest California species to recognize because of its smooth, black shell and the holes which are flush rather than elevated. (Novice divers will sometimes mistake the giant keyhole limpet, *Megathura crenulata* with its black mantle for the black ab!) It is also the least desirable to the western palate because of the relative toughness of the dark meat, tough because of its extremely shallow, intertidal habitat where presumably it has to hang on tighter in the rough surf. It is a popular delicacy in China and Japan and some accredit this popularity with saving the ailing abalone industry which has resorted more to blacks as reds became scarcer.

The shell exterior is typically pitch-black, occasionally dark bluish green and we even have some exceedingly rare specimens which are a beautiful orange-brown! Shells are often quite eroded and a "gem" specimen is hard to come by. The interior is pearly white and without obvious muscle scar. The epipodium is black. As stated above, the 6 to 8 or 9 open holes are flush with the smooth exterior of the shell. There is a subspecies, *californiensis* Swainson, 1822 from Guadalupe Island which differs by having 12 to 16 small, open holes, but interestingly when this variant is grown in the laboratory under conditions similar to those under which the typical form grows, it loses this distinction. *H. c. bonita* Orcutt, *H. c. splendidula* Williamson and *H. c. lusus* Finlay are considered synonyms. *H. c. hotxneri* Hemphill and *H. c. imperforata* Dall are just forms with no open holes.

*H. cracherodii* occur from Coos Bay, Oregon to the tip of the Baja California peninsula, on and under rocks and in crevices from intertidal or shallow subtidal to 10 or 20 ft. deep. One may often find them in dense colonies, sometimes 3 or 4 deep on top of each other! Exceptionally large specimens may reach 7 inches in length, but 3 to 5" is average and 5" is the legal minimum size limit. Large, brown algae is the preferred diet.

*Haliotis walallensis* Stearns, 1899, the "flat abalone", has an exceedingly beautiful colored shell, brick red with white, blue and/or blue-green mottling and longitudinal striations. The shell is rather flat and elongated in shape; there are 4 to 8 (usually 5-6) slightly raised, open holes. The interior is pearly



white and without muscle scar. The epipodium is lacy and yellowish green with large brown and yellow splotches. The "flat ab" is rather rare, occurs principally from British Columbia to Carmel Bay, but may be found along the entire California coast, usually at depths from 20 to 70 or 90 ft., under or on rocks where it lives on small algae. Most of the shells of this species in our collection were taken in 60 to 120 ft. off Coho Anchorage near Point Conception. A shell may reach 7" in length but 3 to 5" shells are average and 4" the legal minimum.

*Haliotis kamschatkana* Jonas, 1845, the "pinto abalone", is the species with which we, personally are the least familiar. It is basically a northern, colder water species but it does supposedly occur as far south as Point Conception, California (we interject *supposedly* because this may be a reference to *H. assimilis* which is often treated as a subspecies of *kamschatkana* and which does, indeed, occur at Point Conception. The shells of the pinto ab are ridged, lumpy and relatively thin, reddish brown mottled with white and blue markings. There are 3 to 6 (generally 5) open, slightly raised holes and 6 inches is given as the maximum length, 4" the legal minimum. The interior is pearly white and without muscle scar. Some references give Sitka, Alaska as the northern edge of the range, others Japan. . . and with a name like "kamschatkana" we would tend to buy the latter range with the species occurring along the eastern coast of the U.S.S.R.! In the northern portion of its range it occurs intertidally, in relatively warmer waters in 35 to 50 or 80 ft. The epipodium is tan to greenish brown.

*Haliotis assimilis* Dall, 1878, the "threaded abalone" is, in our opinion, the most beautiful — and certainly the most variable in color and pattern — of the local abs. It is hard to describe the quality in words, but exceptional forms are like criss-crossed rainbows of color! The basic shell colors are described as red-green and blue-green areas with white splotches on broad ribs. Orange banding also occurs but is exceedingly rare and choice. The banding may be longitudinal, lateral or both, or may appear in flecking or shading . . . no two are alike! The shell is fairly heavy and longitudinally ridged, and rather high. There are 3 or 4 to 6 raised apertures. The maximum length is given as 5"; our largest shell is



Fig. 13. *Haliotis assimilis*, "threaded abalone", a 5½" specimen from 60-120 ft. on rock reef at Coho Anchorage.

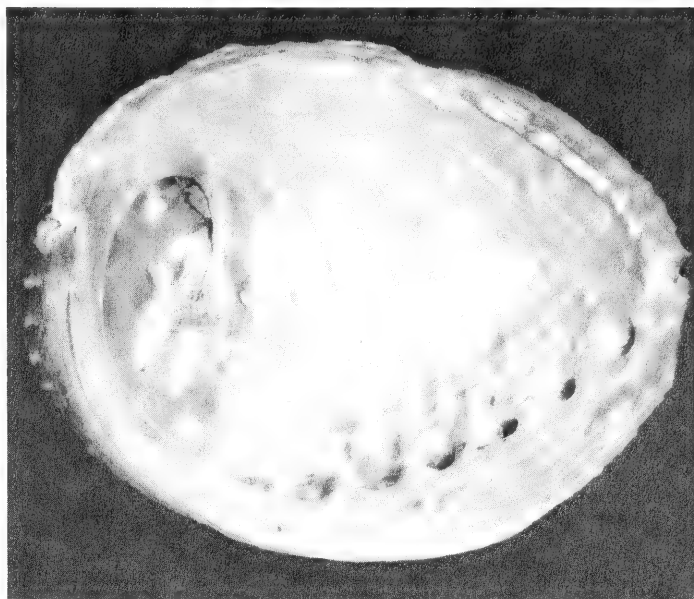


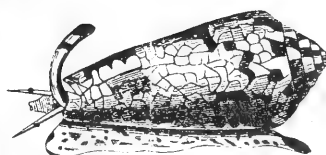
Fig. 14. *H. assimilis*, interior of shell pictured in figure 13.

6" long. The legal minimal length for collecting is 4". The interior is pearly white with faint pink and green iridescence and no muscle scar. The epipodium is yellowish with brown blotches. It occurs in 10 to 120 ft. from central California to central Baja California, but the only ones we have seen are from off Point Conception and Coho Anchorage in 60 to 120 ft.

*H. aulaea* Bartsch and *H. smithsoni* Bartsch are listed as possible synonyms. *H. assimilis* is sometimes treated as a subspecies of *H. kamschatkana*. We find that difficult to accept. . but then, we prefaced this discussion of *H. kamschatkana* with the admission that we don't know much about it!

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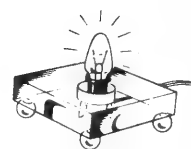
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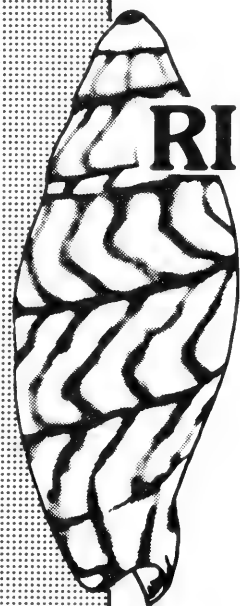
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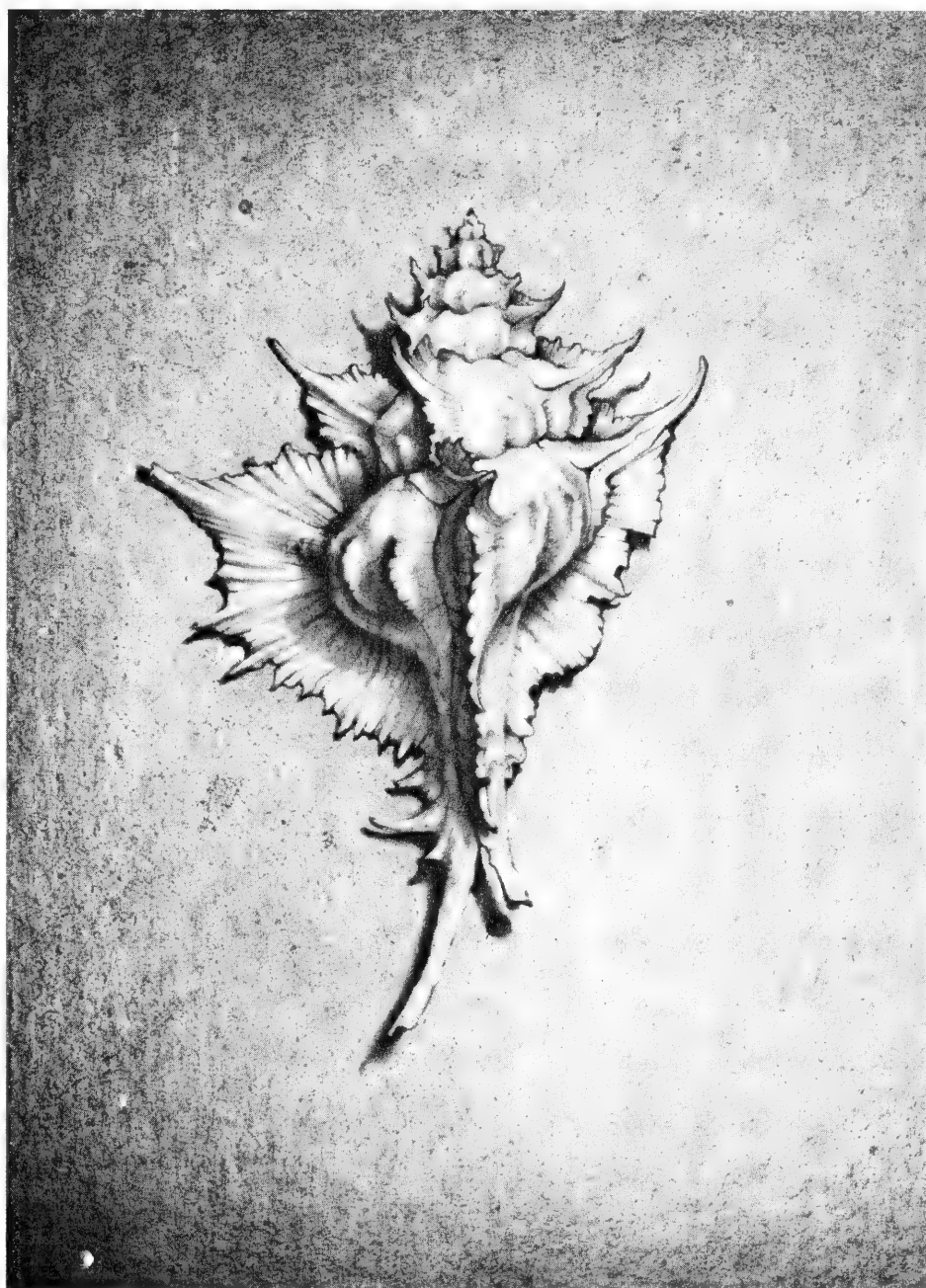
# CONCHOLOGISTS OF AMERICA BULLETIN

VOL. 11, NO. 2

JUNE, 1983

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In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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COVER PLATE: *Murex (Siratus) alabaster*, another painting by Patty McGeeney of Los Angeles, this one in the collection of Marty Beals.

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## PRESIDENT'S MESSAGE

### CONVENTION SHELL AUCTION

One of the fun events of the convention is our shell auction. This is the only COA fund raiser other than dues. The proceeds of the auction go to support the Bulletin, the COA award and our scholarship. This is our appeal to you, our members, for your support of the auction. Most of us have specimen shells or other hobby related items that we could contribute to support of COA activities.

If you have duplicate material (and you surely do) pack it up and send it off to: R.H. Jones, 1432 Dorsh Rd., South Euclid, Ohio 44121.

We would like to get your material well before the convention so it can be lotted and an auction catalog prepared. Don't procrastinate! Send your contribution now! Help your organization! Thanks in advance.

### WHY DO SO MANY PEOPLE COLLECT STAMPS?

It has been estimated that there are several million stamp collectors in the United States. No other collecting hobby has attracted more than a fraction of this number. Why? A year or so ago an editorial in a leading stamp journal took a shot at answering this question. The writer felt that the reason stamp collecting outdrew other collecting hobbies was because it had features that other hobbies lacked.

Included in the features which that writer felt necessary, if people were to participate in a collecting hobby, were:

- The availability of standard catalogs with prices.
- The availability of books and periodicals oriented to the hobby.
- Standards of quality.
- Dealers in materials and supplies.
- The ability to accommodate different personal tastes in collecting.
- The opportunity to specialize.

The person who wrote the editorial felt that stamp collecting had all these attributes while others of the collecting hobbies lacked many, if not all, of the listed features. Shell collecting has all the listed features. Thus it is not at all obvious why stamp collecting numbers its devotees in the millions and shell collecting's devotees number in only the tens of thousands. What is the missing ingredient in our hobby that restricts its popularity? Or perhaps there is a feature of shell collecting that turns people off.

Several things have been suggested that may limit the attractiveness of shell collecting. One is portability. With shells one, generally speaking, must go to the collection. You can stick a fairly extensive stamp collection under your arm and go where you wish. Another is our general practice of using the scientific names of the shells we collect. Does this practice drive off the novice, the life blood of any hobby? While there is lots of literature available much of it is hard to obtain. Does this discourage would be collectors? One vexing area is the difficulty in finding collecting supplies. I know of no dealer that carries any sort of a stock of the supplies and tools useful and necessary to pursuit of the hobby. Is this a factor in the popularity of shell collecting? Why doesn't shell collecting have millions of adherents?

Are there steps which we, as collectors, our local shell clubs and our national (or international if you will) organizations should be taking to increase the participation in our hobby? What are these steps? Or perhaps, as some have suggested, the hobby is big enough as it is. Things are fine as they are. What are your ideas? Let us know!

Good Shelling  
Dick

IN OUR NEXT ISSUE: Aside from our regular features, "Shells for the Amateur", "Shells in Print", "C.O.A. Grand Trophy Winners" and "California Seashells", we will have articles on shelling in the Marshall Islands and on shelling in Florida scallop dumps (which is more fun than it may sound), among others.

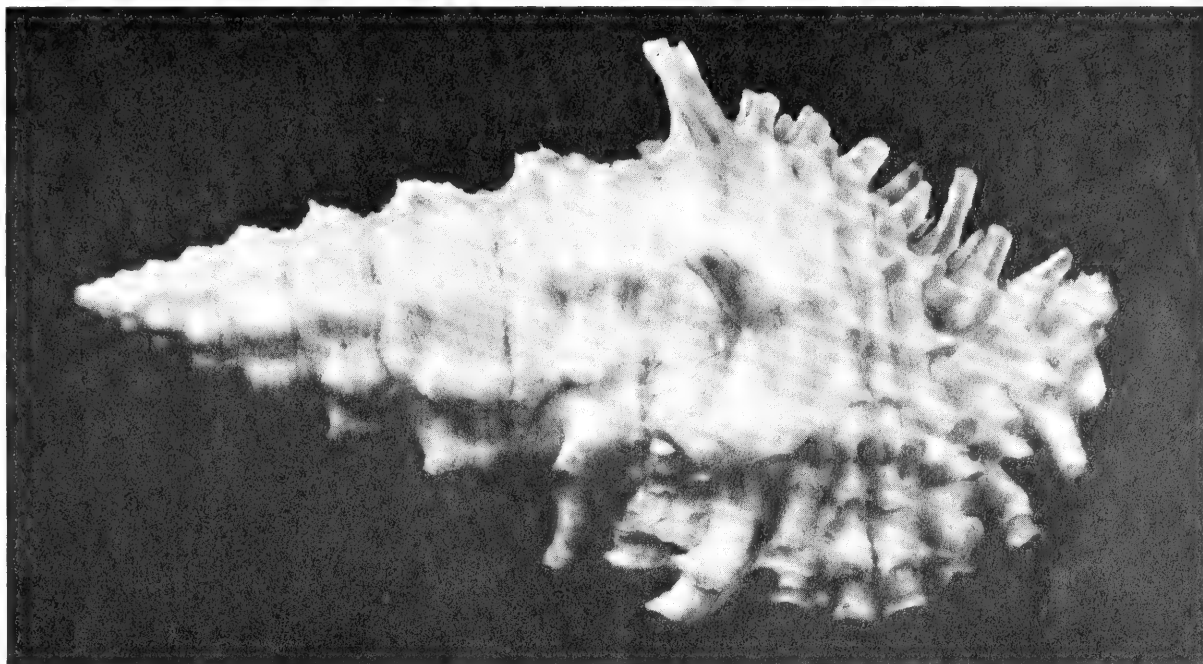


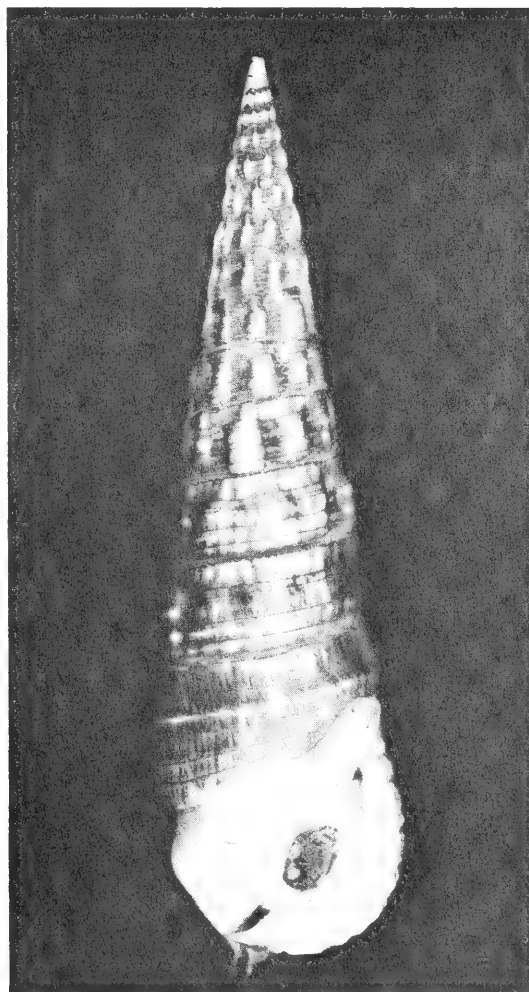
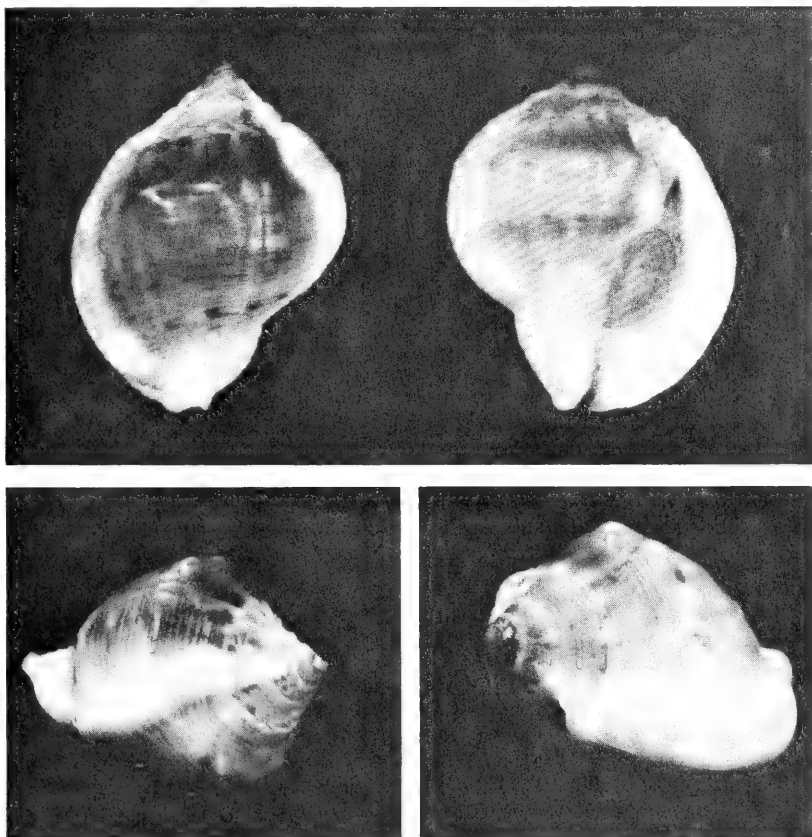
Fig. 1. *Vasum (Altivasum) flindersi* Verco, from Freemantle, W. Australia, collected in a lobster pot at 600 ft., the largest of the Indo-Pacific Vasidae, this shell a lovely pink color. Shown natural size.

Fig. 2. (below). *Cerithium (Pseudovertagus) clava* Gmelin, one of the largest and very uncommon species; this shell, shown natural size, was taken in June of 1980 in 100 ft. off Tahiti.

## SHELLS FOR THE AMATEUR

by C. GLASS & R. FOSTER

Fig. 3. Dorsal, ventral and side views of two specimens of the very uncommon "frog shell", *Bursa marginata* Gmelin; these shells, approx. 28 & 29 mm long, were taken in 100 m off Cayar, Senegal.



## C.O.A. GRAND TROPHY WINNERS



Fig. 1. Louise and Doug Compton display their C.O.A. Grand Trophy by their prize-winning exhibit, "Shells and Man Through the Ages", at the Georgia Shell Show this past March.

The Georgia Shell Show, at Cumberland Mall in Marietta, GA., March 11, 12, 13.

Winners: Mr. & Mrs. William D. Compton

Title of display: *Shells and Man Through the Ages*.

"We have had the idea for years, and finally put it together where we were happy with it", said Louise and Doug. The exhibit showed how in the past man has used shells for ornaments, industry, arts and craft, communication, money, and religion. They also dealt with the North American Indians using shells extensively. Also shown were shell related activities, such as collecting shells, and shells on stamps today. The Comptons also won the Exhibitors' Award for this exhibit.

St. Petersburg Shell Club, Inc. 36th Annual Shell Show, Feb. 25-27, 1983, St. Petersburg, Florida

Winner: Mary L. Hillenbrand

Display: *Principal Tertiary Units in South Florida*

Fossil mollusks of south Florida with complete information concerning Florida stratigraphy during the Miocene, Pliocene and Pleistocene periods. Each species is categorized in a particular geographic unit described in the display.

Mary and husband, Peter, have been collecting fossil mollusks for approximately 4 years. They have self-collected all but a few in the collection which includes 14 cases and when displayed has a total

Fig. 2. Mary Hillenbrand, proud winner of the C.O.A. Grand Trophy, at the 36th annual St. Petersburg Shell Show.



measurement of 48 feet. Mary and Peter are members of the Sarasota Shell Club, originally collecting living specimens of Florida and the Caribbean. Through an invitation of another club member to try fossil collecting, they became hooked on this different kind of shelling. Since then fossil collecting has been a learning experience, especially for Mary who is a native Floridian and prepared the award winning display.

Palm Beach County Shell Show, West Palm Beach., Florida. Feb 17, 18, 19, 20.

Winner: Anita Blondin

Title of display: *Spondylus americanus "The Chrysanthemum Shell"*

The display showed the spondylus in its habitat on a small coral reef, it showed different surfaces the spondylus will attached itself to, listed and displayed the different enemies, showed the different functions of the spines, and one case of beautiful specimens of *Spondylus americanus*.

Anita originally came from Mass. She joined The Shell Club in 1975. Has been an active member, she has been secretary, field Trip Chairperson, Raffle Chairperson and Shell Show Chairperson four times, twice by herself and twice as part of a committee. Anita will be shell show chairperson in 1984. Her favorite shells are the Bivalvia, especially pectens. After winning this C.O.A. award I'm sure she will always treasure her *Spondylus americanus*.

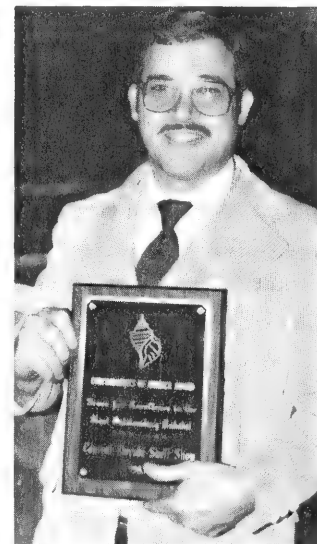


Fig. 3 (left). Anita Blondin is presented the C.O.A. award by Ed Petuch at the Palm Beach County Shell Show. Fig. 4. (right). Dale Lent displays the trophy he won for his "Oceans of Shells" at the Central Florida Shell Club Show.

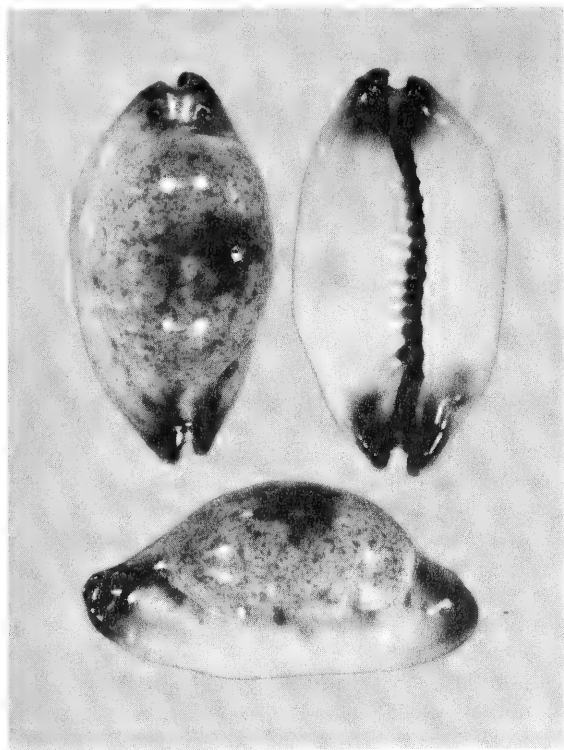
Central Florida Shell Club Show, Orlando, Florida, March 4-6, 1983. winner: Dale Lent

title of display: *Oceans of Shells*

Eleven cases total divided into eastern Pacific, central Pacific, western Pacific, Indian Ocean, eastern Atlantic, and western Atlantic Oceans. Each case had 20-25 specimens selected for their beauty, color and shape and were arranged fan-shaped for additional interest.

Dale Lent, age 45, is a school teacher. In that capacity, he has enjoyed 8 years in Hawaii, and 6 years (to the present) is enjoying the sunshine and shelling in Florida (particularly in the lower keys). He is a certified SCUBA diver with 22 years of experience, but enjoys collecting by just about any of the regular methods. Trading self-collected Hawaiian, eastern Pacific and Florida shells was the method used to obtain most of his world-wide collection. After arriving in Honolulu in 1961 he joined the Hawaiian Malacological Society and was elected later as vice-president of the club. He also served on its board of directors. In Florida he has been elected president of the Central Florida Shell Club twice, served on the board of directors 4 years and at present is the editor of their "Shell News".





*Cypraea gracilis* Gaskoin, 1848 - a rostrate form from Tryon Island, Capricorn Group, Queensland, Australia. Photo by Richard L. Goldberg.

## A RARE ROSTRATE

by RICHARD L. GOLDBERG

Among the most sought-after *Cypraea* are the melanistic and rostrated forms found only in southern New Caledonia and the Capricorn Group and Keppel Islands, Queensland. Much hypothesizing has been done on the causes for such aberrations, but no conclusive answers have arisen. This group of *Cypraea* is not only rare because of the restricted locality, but because not all of the cowries of one species will exhibit the melanism or rostration in one location.

Many articles have been written on New Caledonia forms and, in fact, one whole book is devoted to the subject. The Australian cowries exhibiting the melanistic-rostrate syndrome, on the other hand, have had little or no focus placed on them. The species found with some or total aberration include *Cypraea felina*, *arabica* and *gracilis macula*. A rostrated form of the latter is illustrated here. This very rare form is 23 mm in length, and the dorsum is a bluish green base color, speckled with brown. The base is sunken in as many rostrated specimens exhibit. It was collected by divers off Tryon Island, Capricorn Group, Queensland.

Of extreme interest on this specimen is the darkening of the anterior and posterior canals, a characteristic not common to the normal form of *Cypraea gracilis macula*. It is interesting to point out that in many melanistic forms of *Cypraea* the bases tend to be paler with the dark pigmentation restricted to the dorsum. Could this have been the start of the animal adding pigmentation to the base? This remains to be seen, as are many other questions about this odd and interesting group.

## THE PHILADELPHIA SHELL SHOW

The Philadelphia Shell Club is presenting its first shell show October 1 and 2, 1983 at the Great Hall, James Creese Student Center, Drexel University, 32nd & Chestnut Sts., Philadelphia, PA. 19104. Show times will be 10:00am - 10:00pm, Saturday, October 1, and 9:30am - 6:00pm, Sunday, October 2. There will be exhibits from area museums and research institutes, exhibits especially for children, booths from area shell clubs, and a special program of lectures Saturday evening. Regular exhibits will include: scientific displays from private collections, educational displays, shell crafts, shell art, and shell photography. Shell dealers will sell specimen shells, etc. For further information, please contact Richard Kirk, Fairfax #619, 43rd & Locust Sts., NE. Phila., PA 19104.

## CHICAGO AREA GEARING UP FOR MAJOR SHELL SHOW IN SEPTEMBER

The Southlake Mall in Merrillville, Indiana will be the site of the first major shell show in the Chicago-South Lake Michigan region. The dates have been set for September 24th and 25th. The host club, The Crown Point Shell Club whose members have become well known through their participation in shell shows in the Midwest and Florida, will now have a chance to host their own show.

The show is open to all exhibitors who are interested in competing in the numerous categories grouped under four divisions: Scientific, Shellcraft, Shell Art and Collectibles. Entry applications should be submitted by September 10th. There will be nine major trophies to be awarded including the C.O.A. Grand Trophy, the DuPont, Shell of the Show, People's Choice and Exhibitors' Choice trophies.

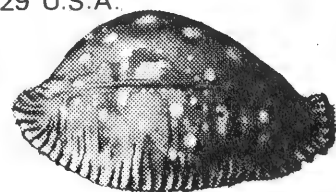
The show site, which is located south of Chicago, has several hotels and motels nearby, including some budget rate motels, for the convenience of out-of-town exhibitors and visitors. Local club members are known to offer traditional country hospitality and have promised to make all out-of-towners feel at home. For further information write or call Myrna Crissinger, 820 N. Court St., Crown Point, IN 46307, (219) 663-2795.

## 1983 WEST COAST SHELL SHOW

The annual West Coast Shell Show will be held Saturday and Sunday, October 22nd and 23rd, 9am to 5pm, at the Fleischmann Auditorium of the Santa Barbara Museum of Natural History, 2559 Puesta del Sol Road, north of Mission Santa Barbara. There will be a shell sales booth open throughout the show and a rare shell auction Sunday afternoon. There are open and amateur classes and ten trophies will be awarded, including the C.O.A. Grand Trophy and the new DuPont Trophy. Participation is open to all shell collectors. For further information and entry forms write: Show Committee, P.O. Box 30191, Santa Barbara, California 93105.

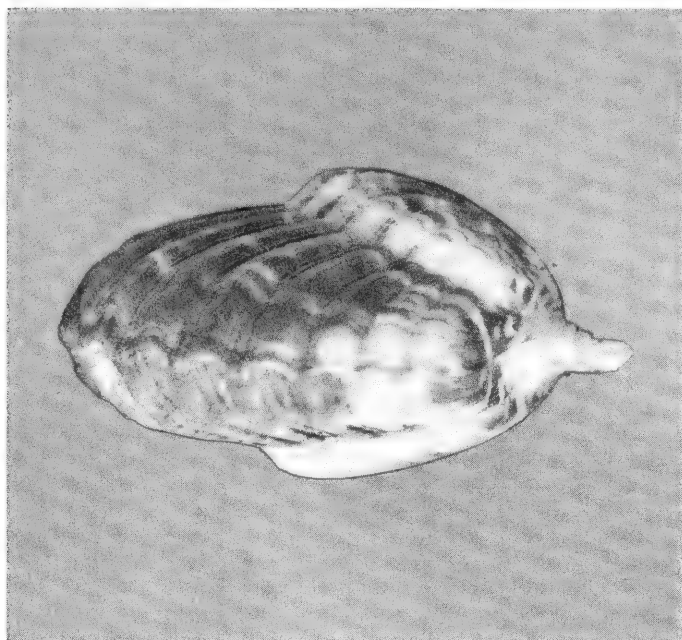
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## PAC-SHELL PECTEN

The illustrated freak pecten certainly conjures up images of a popular video game. The aberrant pecten is *Cryptopecten vesiculosus* (Dunker, 1877), trawled in 10-20 fathoms of water off Mikawa, Aichi Prefecture, Japan. Its color is variegated purple and white, and measures 26 mm x 15 mm in thickness from valve to valve. The animal probably, because of an environmental change, decided to continue growing after in-folding or thickening its ventral edge at sexual maturity. The mollusk first reached sexual maturity when its shell was 16 mm in length. Among the environmental changes that might have contributed to this aberration are change in water temperature, food supply, or possibly even pollution. Whatever the cause, it definitely categorizes this pecten as a fabulous freak!

Richard L. Goldberg

### The WHAT'S IN A NAME Department

*Aspella castor* and *Aspella pollux* were named by Radwin & d'Attilio in their *Murex Shells of the World*, 1976, for the "gemini" or twins of Greek Mythology. The names were chosen in part to point out the close similarity of these Atlantic (*A. castor*) and Pacific (*A. pollux*) species, and in part to honor Clifton and Clifford Martin, amateur malacologist-twins of Oceanside, California who had helped the authors in their research.

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## ABOUT SHELL CONSERVATION

by ED WOODS

Isn't the spoiling of the environment the culprit when an area becomes devoid of shells? What is to blame? I believe it is man's unbelievable obsession to be on the waterfront with walls, groins, dredging of canals and his pollution. I believe it is the ruination of our bays, inlets, beaches, mangrove swamps, rivers and streams. Who is the villain for less molluscan life, if that actually is the case?

Shell fisheries offshore, as well as commercial shellers in shallow water are taking thousands upon thousands of mollusks daily. Scientists have been taking shells in lots of hundreds or more for generations. Think of the number of mollusks that could be accounted for in shell mounds and kitchen middens. Dredging for mollusks for food must kill off many of the young and non-used mollusk life.

Beach nourishment projects cost thousands of dollars, in order to save man's work already encroached upon the beach. They dredge offshore reefs, and untold numbers of shells turn up on the beach, to the consternation or delight of shell collectors. McGinty and Nelson listed 507 species of shells actually found in the Pompano Beach (Florida) dredge material nourishing the beach in 1970. The dredge was located about a mile offshore. Among their listing are 22 species of limpets, 13 of Cerithidae, 15 of Epitoniidae, 13 of Naticidae, 21 of Muricidae and 19 of Conidae, plus more. The so-called nourished beach soon washes back into the ocean. Shallow-water breeding areas are being filled to extend ocean property. Deep canals are being cut far inland so everyone can have a boat at his own dock. Freshwater shelling areas disappear as streams are walled and turned into canals. Swamps are drained and lakes are polluted. Shelling areas open to the public are disappearing as miles of coastline are turned into restricted parking areas.

The Shell Collector's Code of Ethics, as well as the present need for the protection of our shells and their environment are our concern. A sentence in the American Malacological Union Bulletin reads: "Conservation is being stressed, though to date the effort to convince shell collectors not to take live mollusks seems confined to lip service." Other people say "A conservationist is a collector who has all the shells he wants." We must protect our hobby!

Shell club members collect after high winds and hurricanes, on the many beaches that are being nourished, after red-tide kills and on fossil shell banks. I've collected on scallop dumps, in dredge material from shrimp nets, on aragonite piles and in Coast Guard buoys brought in for cleaning. We beachcomb for already cleaned shells for our shellcraft work, shell packs, give-away shells and even for miniature specimen shells. On shelling trips to new areas I take one or two of each species, unless I have a specific request to collect for a scientist. Out on the local flats I find my shelling apron filled with dead shells, good enough to be cleaned up, or crabbed specimens.

I do not believe shell collectors can over-collect an area! Nature protects her own by expert camouflage, seasonal changes, rough weather and high tides. There was an invasion of the Miami Finger Channel Flats by three shell clubs at one time. Mollusks were saved from over-collecting by an onshore wind, and by water covering most of the area. We shell collectors do not want immature, hard-to-clean or poor quality shells. We let these mollusks grow to become food for other sea creatures or to reproduce. Think of the millions of veligers, or baby mollusks, that come from each adult. We do

not collect in very deep water. We seldom take living mollusks, if we already have live-collected specimens in our collection, unless we trade with those enjoying our hobby in other countries. We try to protect the environment by turning back every rock, piece of coral, clump of sponge, dead shells and even man-made debris that house, hide and protect minute sea life. We do not want to destroy our favorite habitats and turn them into dead areas. We want to return again and again to study and observe.

I do believe in National Monuments and state or county offshore areas where collecting all forms of marine life is forbidden. These must, however, be better patrolled, and the law more strictly enforced.

To put a mollusk on an endangered list will raise its dealers' price and practically every collector will want one in his collection - before it is extinct. To advertise a resort as a shelling paradise, allow the streets to be lined with shell shops and then beg the people not to collect live mollusks scarcely helps. To publish books on shelling, hold annual conchological and malacological meetings, form more shell clubs, plead for students to become marine scientists all encourage shell collecting. Best we protect the environment and the mollusk habitats from so-called progress!

To shell clubbers, shell collectors and readers of the vast number of exotic and expensive shell books being published - Let's not over-collect!! Juveniles, undersized or poor quality shells have no place in our collections and are not trading material. Let's not show growth series in our cabinets or shell show displays. Let's keep turning those rocks back. Let's carefully replace a specimen after we have studied it - let it continue to reproduce. Let's take only what we need and can carefully clean. Let's discourage the taking of buckets' full of shells by thoughtless collectors. Let's enjoy the shells we have. Let's become malacologists and not just shell collectors. Let's study the living mollusk to discover its food, foes, habits and variations. Let's record and publish our observations. Let's be conservationists. Let's fight to help save the environment and the right to our hobby.

## 1983 C.O.A. CONVENTION - UPDATE

Plans for the eleventh Annual C.O.A. Convention to be held in Sarasota, Florida on Sept. 21-24, 1983 are proceeding very smoothly. The four day event will be held at the Holiday Inn on Lido Key in Sarasota, Fla. The Sarasota Shell Club is the host for the convention. The convention committee will be sending out a separate mailing to all C.O.A. members early in June. This mailing will contain detailed information as to the programs, field trips and will include registration and hotel reservation forms.

There was a request in the last bulletin for programs for the convention. If you would like to participate, please send information about your program and what, if any projection equipment would be needed to: Mr. Charles Hertweck, 637 Sheridan Dr., Venice, Fla. 33595.

Contributions of shells for the annual auction will be greatly appreciated. Last year's auction was the most successful in the organization's history, and we would like to set a new record this year. All shells you wish to donate should be sent to our C.O.A. President, Mr. Richard Jones, 1432 Dorsch Rd. South Euclid, Ohio 44121.

We expect to have an exciting convention with excellent programs and interesting field trips. The Holiday Inn on Lido Key is located across the street from the beautiful white sand Lido Beach. There are miles of beaches to walk. Also just a short walk away is the world famous St. Armand's Circle Shopping Area, with more than 100 shops of all kinds. Be sure to set aside the dates of Sept. 21-24, 1983 and join us in Sarasota for a memorable convention.

Further questions on the convention should be directed to Mr. R.W. (Dick) Forbush, 1104 Sklar Dr. E., Venice, Fla. 33595.

### THE ONE THAT GOT AWAY

On Kwajalein Island activities are limited and many U.S. government employees take up SCUBA diving and shell collecting. Salt water aquariums are referred to as "KWAJ-TV". In one such aquarium a hungry *Conus textile* was provided with a *Cypraea eglantina* for supper. The cone immediately responded to the proximity of the cowny extending its elephant-trunk-like proboscis to its astonishing full length and waving it through the water to get the bearings of its prey. Once it located the cowny it swept its proboscis under the shell to hit the soft parts of the animal. The cowny reacted with a shudder and immediately emitted cupfuls of mucous into the water which obviously confused and disoriented the cone while the cowny made its escape. This won the cowny a thumbs-up from the spectators and it was replaced in the ocean rather than in the shell collection.

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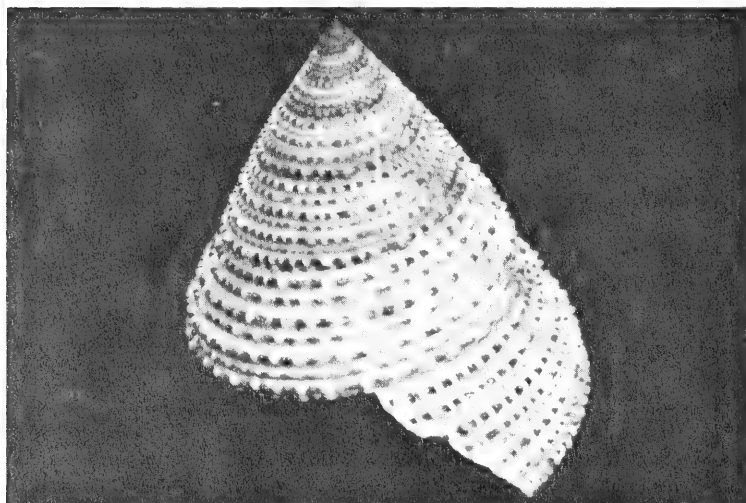


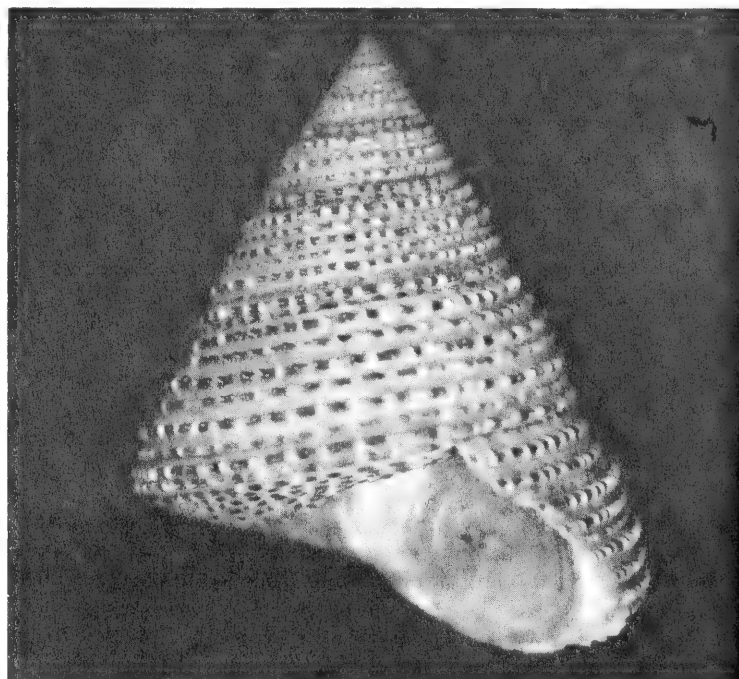
Fig. 1. *Calliostoma annulatum*, Abbey Specimen Shell #82-220, approx. X 2, leg. Glass on giant kelp off south coast of San Miguel Island, Jan. 1982. Fig. 2 (right). *C. annulatum*, same shell pictured in fig. 1, approx. X 2.5.

## CALIFORNIA SEASHELLS PART IV: TROCHIDAE

C. GLASS & R. FOSTER

The top-shells, or members of the family Trochidae, are represented in California by several interesting and, in some cases, very attractive species in 9 or 10 genera, namely and alphabetically: *Calliostoma*, *Halistylus*, *Lirularia*<sup>1</sup>, *Margarites*, *Norrisia*, *Seguenzia*, *Solariella*, *Tegula* and *Turcica*. In this paper we are dealing with the three most common genera, *Calliostoma*, *Tegula* and *Norrisia*. Top-shells may most easily be distinguished from the similar turban-shells<sup>2</sup>, members of the family Turbinidae, of which, also, there are several along the California coast, by the horny, thin, multispiral operculum as compared to the calcareous, thickened operculum of the turbinids.

The most beautiful of the California trochids is almost unquestionably *Calliostoma annulatum* (Lightfoot, 1786), the "purple-ringed top-shell". It is hard to describe the delicate beauty and subtle coloring of this jewel, and, unfortunately, it is never again as beautiful as when it is live and fresh out of the water! The shell is golden yellow to amber in color with spiral ridges which are strongly beaded, the beading purple and white, with a pale but lively purple band at the base of the whorl by the suture and around the columella. Size is given as 10 to 30 mm in length and to 30 mm in diameter. The largest specimen we have found is 28.3 mm in diameter and 33 mm long from the tip of the spire down through the central axis of the shell to the level of the bottom of the aperture<sup>3</sup>. We have found small specimens in 10 to 30 ft. of water on the Monterey harbor breakwater, on Naples Reef west of Santa Barbara in 25 to 50 ft., and at similar depths off Santa Cruz, Santa Rosa and the Anacapa Islands, but by far the best and largest population we have ever seen was on giant kelp (*Macrocystis*) in 70 ft. of water off the southern shore (or "backside") of San Miguel Island. When we first visited this spot in January of 1982 there were innumerable and extra large specimens of this species together with *C. canaliculatum* and *Tegula pulligo* on nearly every blade of kelp, as well as *C. ligatum* on the rocky bottom, but when we returned to the area, not only were the shells gone (except

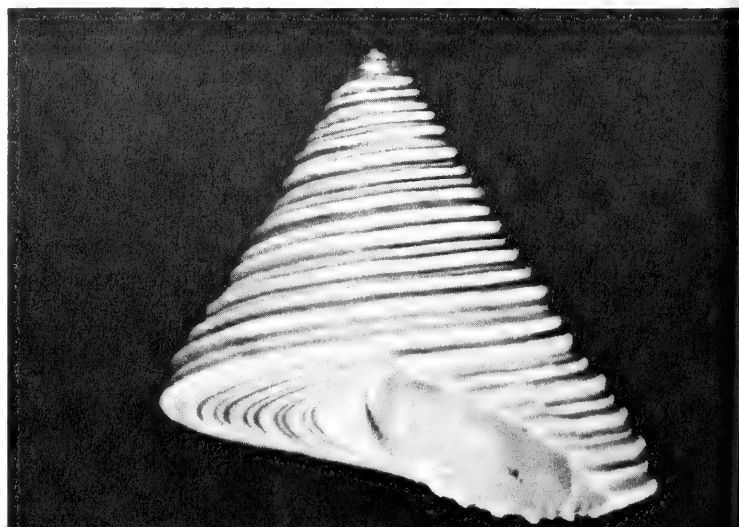


the *C. ligatum*) . . . . so was most of the kelp! A storm had undoubtedly washed both shells and kelp away. It will be interesting to see whether the shells return in similar numbers seasonally or at all, once the kelp reestablishes itself on that reef.

The range of *C. annulatum* extends from Forrester Island, Alaska to San Geronimo Island off northern Baja California. They are omnivores, feeding on hydroids, bryozoans, detritus and even anemones, as well as on the kelp itself.

*Calliostoma canaliculatum* (Lightfoot, 1786), described at the same time as *C. annulatum*, is often found in the same area as that species, though often higher up on the kelp, occupies approximately the same range (Sitka, Alaska to northern Baja California), competes for the same basic diet, and, indeed, both species were discovered at the same time, among the first known California molluscan species, taken on the voyage of Captain James Cook. *C. canaliculatum*, the "channeled top-shell", is described as attaining 35 mm in height and diameter, white to buff colored (occasionally with

Fig. 3. *Calliostoma canaliculatum*, AbS #82-227, approx. X 2.5 (note darker maculations evenly spaced around bottom of whorls).





subtle tan mottling and regularly spaced tan blotches near the base of the whorls) and characterized by several, spiral channels (or raised ribs, depending upon your point of view). We have found this species on the pilings of the Santa Barbara wharf, on the Monterey harbor breakwater, and again, along with *C. annulatum*, the best, largest and most numerous specimens were on the kelp off the south shore of San Miguel Island, our largest self-collected specimen measuring 27 mm in diameter and 26 mm in length. The largest in our collection, Abs #83-144 from Monterey County, measures 33.5 mm tall, 35 mm wide.

*Calliostoma ligatum* (Gould, 1849) was also discovered during the Cook expedition and is also fairly common in California giant kelp forests, along with the two aforementioned species. In most instances, however, we have encountered this smaller (to 25 mm in length and diameter), less showy species on the rocky reef substrate under the kelp, and even where there is no kelp: on the perpendicular rock faces of the Monterey harbor breakwater in 10 to 30 ft., on Talcott Shoals off northwestern Santa Rosa Island in 55 to 65 ft., and in 45 ft. off the southeast corner of San Miguel Island. Its range is from Prince William Sound, Alaska to San Diego. The shells are relatively low with broad, rounded whorls, dark brown with paler, relatively smooth spiral ridges and often with a dark bluish cast, particularly in the early whorls near the spire. *C. ligatum* is most similar to *C. canaliculatum* but may easily be distinguished by its smaller size, darker color, more rounded whorls and less flattened bottom.

The other four or five species occurring in California waters with which we are somewhat familiar are relatively uncommon and smaller species, mostly under 25 mm. We have found *Calliostoma gloriosum* Dall, 1871 on Naples Reef and on the backside of the Anacapa Islands in 35 to 40 ft., under rocks. We also have specimens from rocky reefs in about 45 ft. in Coho Anchorage near Point Conception, collected by John Phillips. Height is given as 15 to 25 mm, the range from San Francisco to the Coronado Islands off northern Baja California. The Phillips shells, however, are exceptional specimens, one measuring 32 mm long and 27.5 mm in diameter, the other 30 mm in both dimensions. The shells are tan to dusky orange with regularly spaced darker blotches or flammules on the upper and lower parts of the somewhat rounded to slightly shouldered whorls near the suture. The whorls are sculptured with fine spiral ribs, the upper ones lightly beaded. This species reportedly feeds mostly on the sponge, *Xestospongia diprosopia*.

Fig. 4. *C. canaliculatum*, Abs #82-228, approx. X 2.5, leg. Glass, with 82-220 (see figs. 1 & 2).

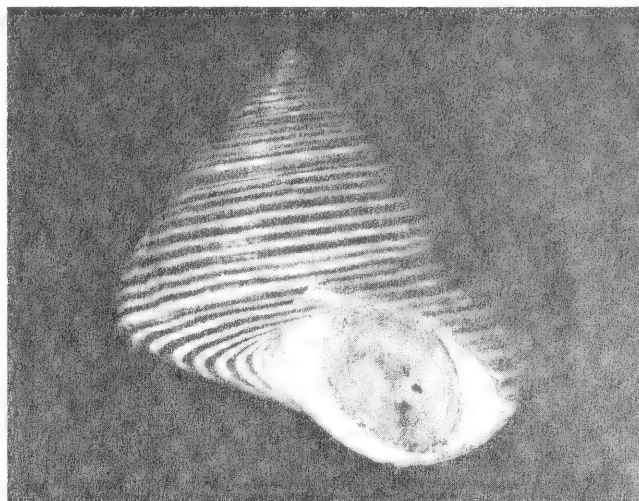


Fig. 5. *Calliostoma ligatum*, Abs #82-1222, approx. X 2.5, leg. Glass on Monterey harbor breakwater in 20-30 ft., April, 1982.

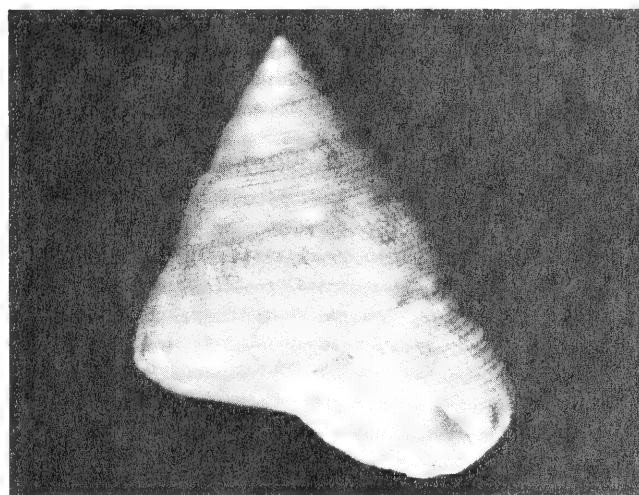


Fig. 6. *Calliostoma gloriosum*, Abs #81-270, approx. X 2, leg. John Phillips in 45 ft., Coho Anchorage.

Fig. 7 (below). *C. gloriosum*, Abs #.77-055, approx. X 2.5, leg. J. Phillips in 45 ft., Coho Anchorage.

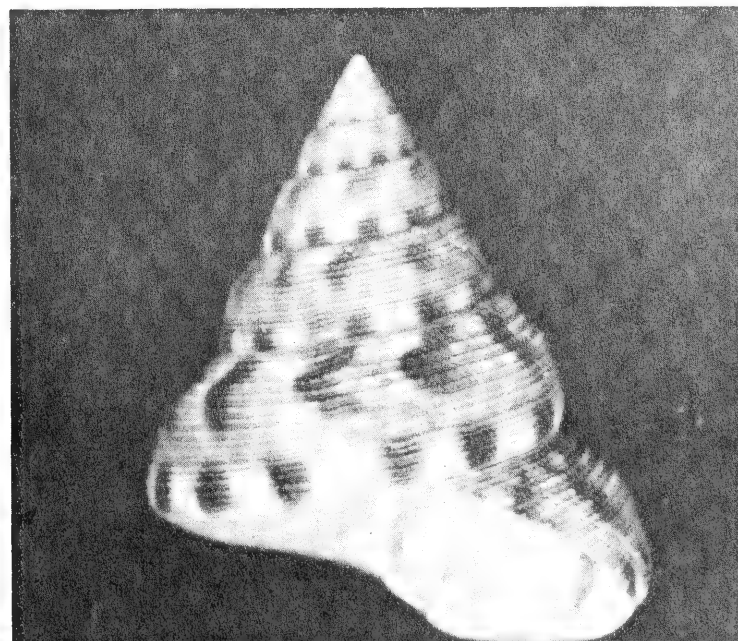






Fig. 8. *Calliostoma splendens*, AbS #81-3420, approx. X 4, leg. Glass in 65 ft., on crabbed shell encrusted with diaporitia, Canby Reef, Santa Barbara.

Both *Calliostoma supragranosum* and *C. splendens* were described by Carpenter in 1864. The taxa are similar and some authorities consider *C. splendens* a synonym of *C. supragranosum*. Kaicher points out that *C. supragranosum*, described as light yellowish brown with a spiral row of pale white spots on the lower edge and to 13 mm long, is umbilicate whereas *C. splendens*, described as a yellowish orange with whitish maculations along the upper edge of the whorl and to 7 or 8 mm long, is imperforate. (All other species of this genus with which we are dealing in detail in this paper are imperforate, that is: not umbilicate.) If one chooses to recognize these differences as significant, then the shells with which we are familiar would all fall under *C. splendens*. They are the tiniest of California calliostomas. Most of our shells have been collected adventitiously, unnoticed on small rocks or upon other shells which we have brought home for the aquarium. Being mostly omnivores, calliostomas do relatively well in saltwater aquaria, but it is a particularly pleasant surprise to suddenly notice some tiny calliostoma sliding across the glass inside the aquarium and realize that it must have been brought in on a rock or piece of kelp! Most of our specimens have come from Canby Reef out of the Santa Barbara harbor in 65 to 70 ft. of water. The range (for both taxa) extends from Monterey to southern Baja California.

Also on Canby Reef, as well as on the wharf pilings in Santa Barbara, we have found the beautiful, little *Calliostoma tricolor* Gabb, 1865. At first we considered our identification somewhat tentative for our shells did not adequately match the illustrations or descriptions at our disposal. The illustration in the Abbott & Dance *Compendium of Seashells*, however, is definitely our species. The later whorls are quite smooth textured with almost no trace of spiral beading. They are somewhat angular with sloping shoulders, orange-tan with spiral lines of alternating light and dark dashes. The shells are 18 to 22 mm long, our largest specimen being only 18 mm long and in diameter. Its range is from Santa Cruz, California to San Martin Island off northern Baja California.

*Calliostoma variegatum* Carpenter, 1864 has been compared to *C. canaliculatum* with narrower, beaded cords, a slightly concave profile and rounded base. The shells are buff-colored, sometimes with spaced, reddish brown dots atop the cords. There is a slight depression along the suture. The shell is described as 25 mm long. Our largest specimen, collected by T. Kincaid in 1946 off the San Juan Islands, Washington, is 27 mm in diameter and 30 mm long. We have another specimen, 24 mm in diameter and 29.5 mm long, collected by John Phillips in 90 ft. near Point Conception, California. The range is from Alaska to southern California.

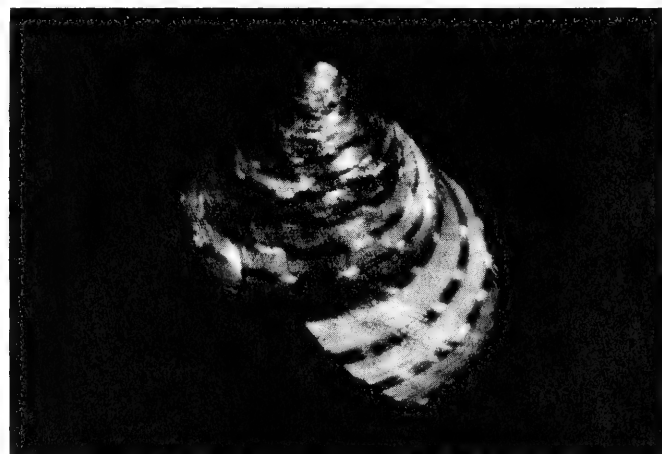


Fig. 9. *Calliostoma tricolor*, AbS #82-690, approx. X 2.5, leg. Glass, on pilings of Stearns wharf in 25 ft., Santa Barbara.

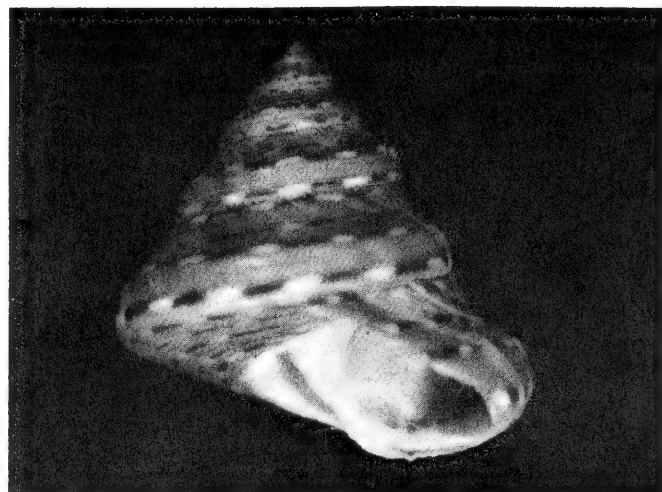


Fig. 10. *C. tricolor*, AbS #82-691, approx. X 3, coll. with 82-690 (fig. 9).

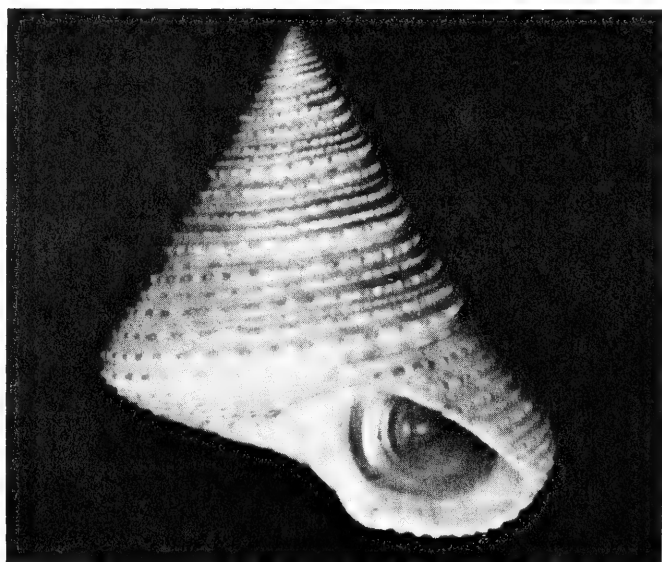


Fig. 11. *Calliostoma variegatum*, AbS #77-056, approx. X 2.5, leg. John Phillips in 90 ft., Pt. Conception.

We are not, unfortunately, very familiar with the other four species listed from California waters, namely *C. gemmulatum*

Carpenter, 1864, *C. keenae* McLean, 1970, *C. platinum* Dall, 1889 and *C. turbinum* Dall, 1895 (but we're still looking!). *C. gemmulatum* is described as being 15 mm in diameter and 20 mm tall, olive green with darker, longitudinal markings and with up to 6 beaded, spiral ridges on the body whorl, moderately uncommon in low, intertidal zone, in rocky areas and on wharf pilings, from Cayucos, San Luis Obispo County, California to southern Baja California. *C. keenae* seems very close to *C. supragranosum*. A specified difference is a lack of beading in the early whorls of *C. keenae*. The range is given as coming from 24 to 68 fm from off Laguna Beach to Baja California. *C. platinum*, a smooth, thin, silvery white shell to 32 mm large, is from deep water (50 to 414 fm) from British Columbia to San Diego. *C. turbinum* is apparently a small (to 12 mm large), rather colorful species with 3 strong and several thread-like cords on the body whorl, with a short range in fairly deep water (35 to 75 fm) from Point Conception to San Diego, California.

At least some species of *Calliostoma* cover themselves with a layer of mucous which offers them some slippery protection. Be it for this reason or some other, calliostomas are generally very clean shells, rarely heavily encrusted like some of their *Tegula* cousins . . . which is fortunate since the outer shell material, particularly in the early whorls, is soft and is easily brushed off down to the nacre if one is not careful.

The other main group of top-shells in California waters is *Tegula* with eight species. *Tegula* is similar to *Calliostoma* but distinguished by the presence of one or more denticles at the base of the columella. The largest, showiest and most different species by far is the "queen tegula", *Tegula regina* (Stearns, 1892). Its range is from Catalina Island to Asuncion Island off central Baja California. We have found *T. regina* rather commonly on rocks in 15 to 35 ft., but only around Catalina and San Clemente Islands. It appears along the mainland coast around San Diego and south. *T. regina* is pyramidal in shape, 40 to 50 mm tall (our largest shell is 45 mm tall and 53.5 mm in diameter), with wavy, axially corded sides which flare slightly at the bottom of each whorl with an overhanging, laminate, crenulate margin. This flaring portion

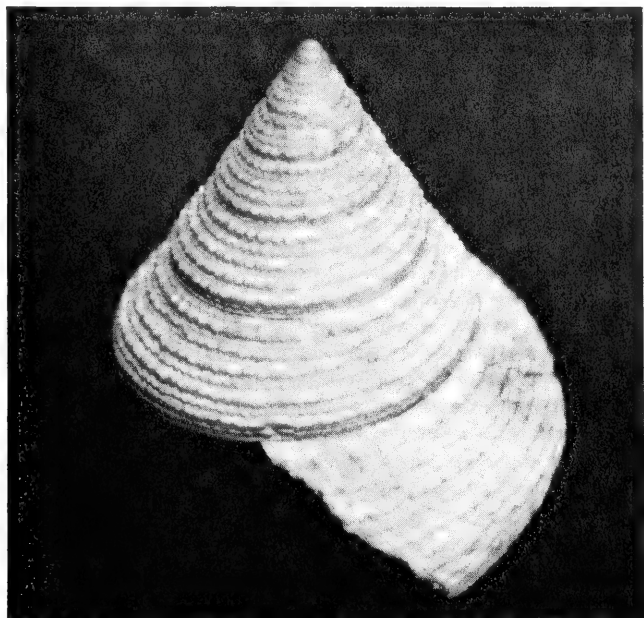


Fig. 12. *C. variegatum*, AbS #76-624, approx. X 2.5, San Juan Islands, Washington.

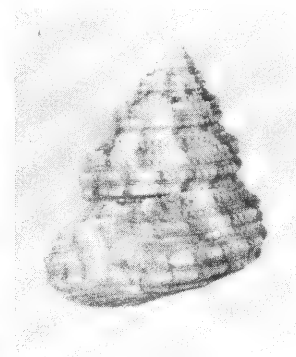
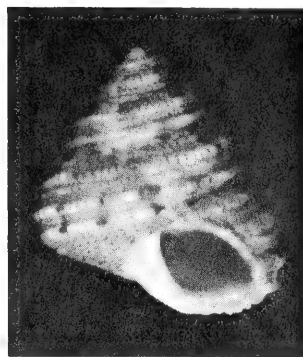


Fig. 13. *Calliostoma gemmulatum*, left: approx. X 3.5, leg. Earl Nydam, under rocks, low tide, Coal-oil Point, Santa Barbara. Right: AbS #83-128, approx. X 1.5, leg. C. Neeb, 1963, Mission Bay, San Diego.

is usually black, but the rest of the whorl varies from lemon-yellow to orange to nearly black. The base is white and most peculiar with numerous curved, raised, black ridges corresponding to growth lines. Near the aperture the base becomes smooth and lemon-yellow with a darker, orange stain around the umbilicus. In our experience shells are typically heavily encrusted with limey deposits, most difficult to clean.

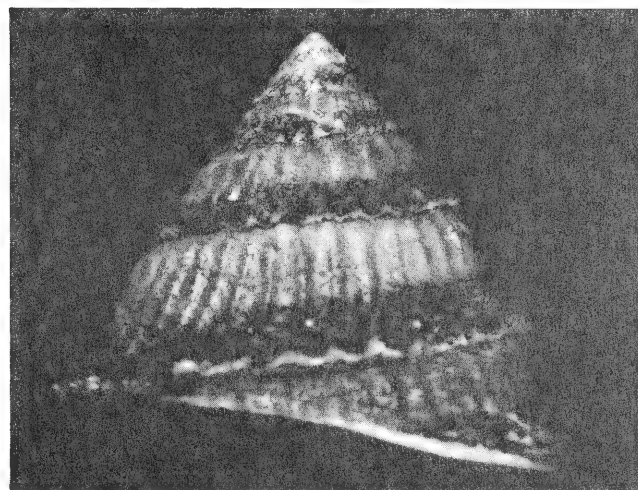
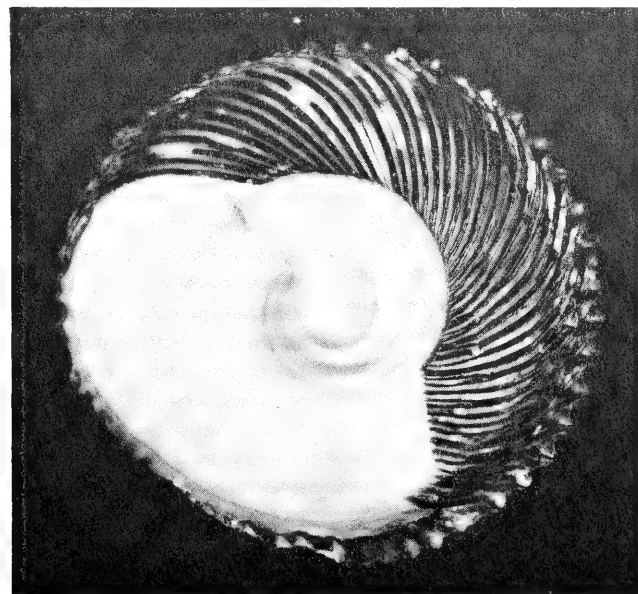


Fig. 14 (above). *Tegula regina*, AbS #81-230, approx. X 1.5, leg. Glass, in 15-35 ft., backside of Catalina Is., near Sentinel Rock. Fig. 15 (below). *T. regina*, bottom view of same shell pictured in fig. 14.



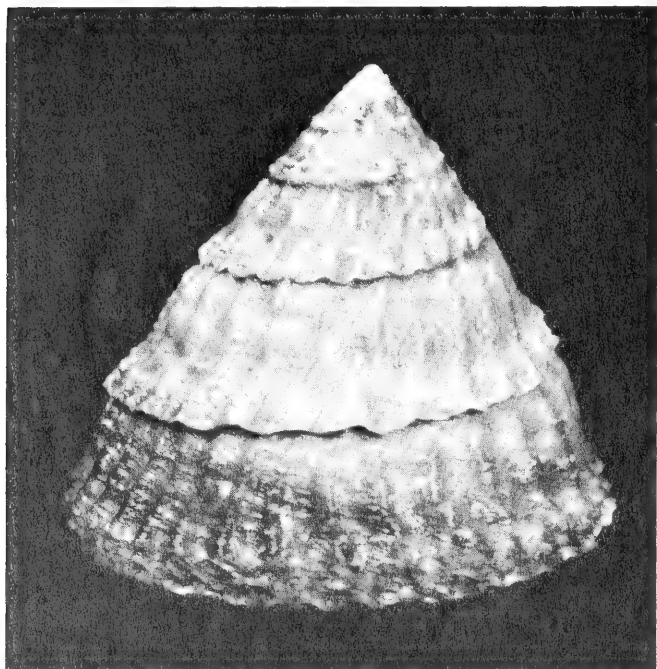


Fig. 16. *Tegula regina*. AbS #81-231, a rare, nearly totally lemon-yellow specimen from the same locality as AbS #81-230.

Two similar species of *Tegula* which share more or less the same range, from southern California to Magdalena Bay, Baja California, are *Tegula aureotincta* (Forbes, 1852) and *T. eiseni* Jordan, 1936. In the water and encrusted they are fairly hard to tell apart, but they may be readily distinguished by the deep orange stain around the umbilicus of *T. aureotincta* which gives that species its name and by the unbeaded, wavy or irregularly lumpy sculpturing on the whorls. Also, the base bears about 5, low, rounded, spiral cords. The shell is gray to greenish gray to nearly black. The maximum size is given as 40 mm tall (our largest shell [83-133] is 37 mm tall and in diameter. *T. eiseni* is tan to dull brownish with numerous beaded, spiral cords, the beads typically alternating black and white, the black predominant. The species is also generally smaller, from 20 to 25 mm tall and usually slightly broader. Our largest specimen is 25 mm tall and 25 mm in diameter. Both species are common on rocks in moderately shallow water around Catalina and San Clemente Islands. We have found *T. aureotincta* around Santa Cruz Island as well and *T. eiseni* on the breakwaters of the Los Angeles harbor at San Pedro.

Fig. 17-19. *Tegula aureotincta*, AbS #82-712: left, front view of a greenish grey shell from Fraser Point, in 30 ft. of water, west end of Santa Cruz Island; center, base of same shell showing orange blotch and spiral cords, approx. X 1.5; right, side view of same shell, approx. X 1.75.

Two other, closely related species of *Tegula* whose ranges and habitats are also similar are *T. funebris* (A. Adams, 1855) and *T. gallina* Forbes, 1850. They are shallow, intertidal to tidepool species, often exposed to air for periods of time. A third similar species, *T. brunnea* Philippi, 1848, more often occurs subtidally. None of the three is a particular "grabber" as far as specimen shells go, and the spires are usually badly worn or eroded from their turbulent habitat, so a good specimen is hard to find and when you have one, you haven't got much! All three have a closed umbilicus with merely a dimple-like depression. The size range for all three is from 25 to 35 mm though exceptional specimens of *T. funebris*, the "black tegula", may get as large as 50 mm. Its range is from Vancouver Island to central Baja California. *T. gallina*, the "speckled tegula", is characterized by zigzag axial stripes of white to purple. Its range is from Santa Barbara County to Magdalena Bay, Baja California. *T. brunnea*, the "brown tegula", is a light, chestnut brown in color. Its range is from Oregon to the Santa Barbara Channel Islands.

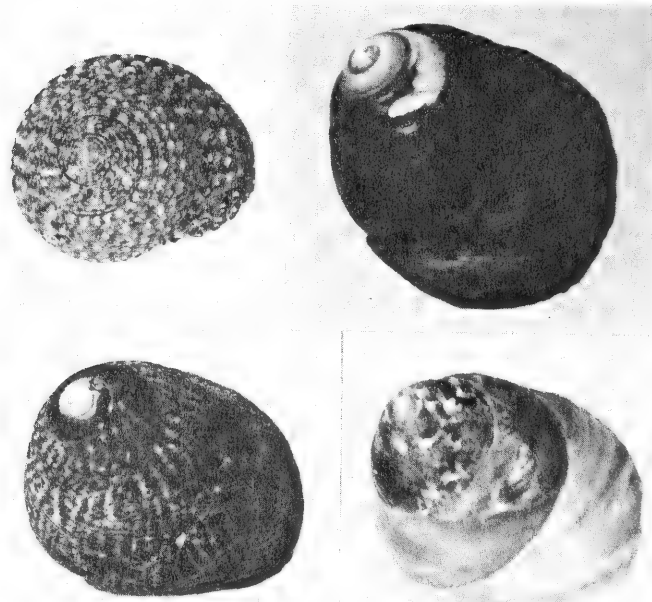
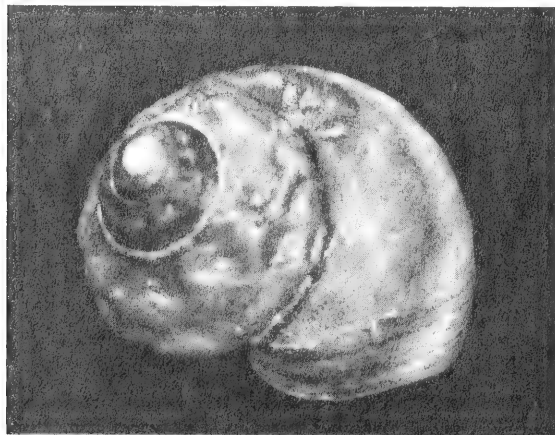


Fig. 20. (top left). *Tegula eiseni*. AbS #83-132, approx. X 1.5, coll. in the 1920s at San Pedro. Fig. 21 (top right). *T. funebris*. AbS #83-137, approx. X 1.33, Sand Dollar Beach Monterey Co., leg. Jean Wilkins, 7/1968. Fig. 22 (bottom left). *T. gallina*, AbS #83-134, approx. X 1.5, Seal Beach, 6/1966. Fig. 23 (bottom right). *T. brunnea*, AbS #83-141, approx. X 1.33, near Cayucos, leg. Thelma Crow, 3/1972.





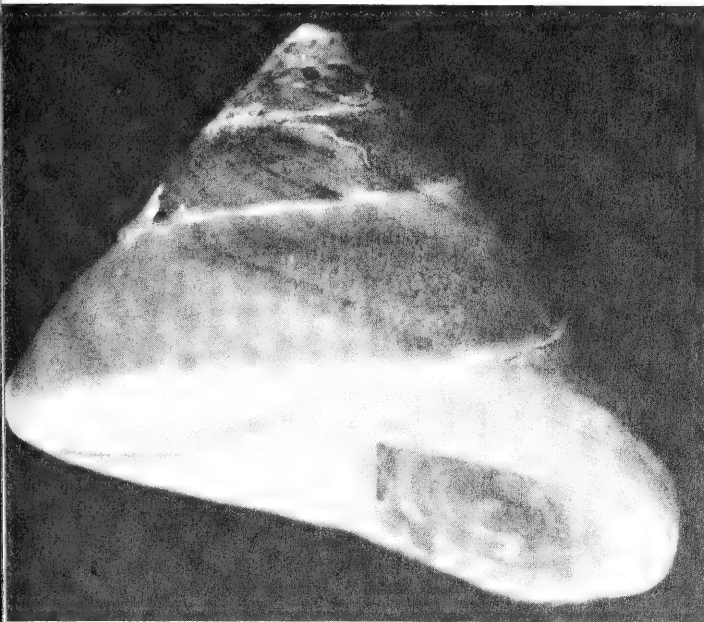


Fig. 24. *Tegula pulligo*, AbS #82-230, approx. X 3, leg. Glass on giant kelp, off south coast of San Miguel Is., Jan. 1982.

The last two tegulas also may easily be confused, specifically *Tegula pulligo* (Gmelin, 1791) and *T. montereyi* (Kiener, 1850). They are similar in conical shape and size, 25-37 mm long and about as wide or slightly wider. They can be distinguished by details of the base of the shells, the base of *T. montereyi* bearing faint spiral threads, with weak spiral cords around the umbilicus and 1 prominent tooth on the columella; the base of *T. pulligo* is smooth, the columella toothless. The range of *T. montereyi* is from Bolinas Bay, California to the Santa Barbara Channel Islands, generally found on kelp in deeper water. We have found *T. pulligo*, the "dusky tegula", on kelp off the southern shore of San Miguel Island, with *Calliostoma annulatum* and *C. canaliculatum*, and on kelp near the Monterey harbor breakwater. The shells are smooth, sharply conical, grey to pale pinkish tan with slight gradations of shading corresponding to growth lines. The early whorls are markedly different with a lavender cast and lighter and darker maculations especially at the upper edge of the whorls by the suture, and to a lesser extent at the bottom of the same whorls. After the second or third whorl the color lightens and the spotting no longer occurs. The base is white and slopes smoothly and sharply towards the umbilicus. Our largest specimen, from San Miguel, measures 30 mm tall and 34 mm in diameter. The range is from Sitka, Alaska to Baja California. We have not yet collected *T. montereyi*.

In some ways the most unusual of the California trochids is the monotypic *Norrisia norrisi* (Sowerby, 1838) which is very common in kelp beds off southern California. The shell is heavy, broad, to at least 57.5 mm in diameter and 45 mm high, with a low, rounded spire and large, smooth, rounded whorl, rich brown over pink in color with shaded growth lines like wood grain, and shading to black around the umbilicus. The columella is vivid kelly-green, the aperture pearly white and the animal bright orange-red, all of which make this a very colorful creature. The operculum is quite distinct, brown and cardboard-like with thickened spiral ridges of matted, hair-like material. Its range is from Point Conception to Asuncion Island off central Baja California. We have encountered this species particularly on "palm kelp" beds throughout southern California waters and around the islands.

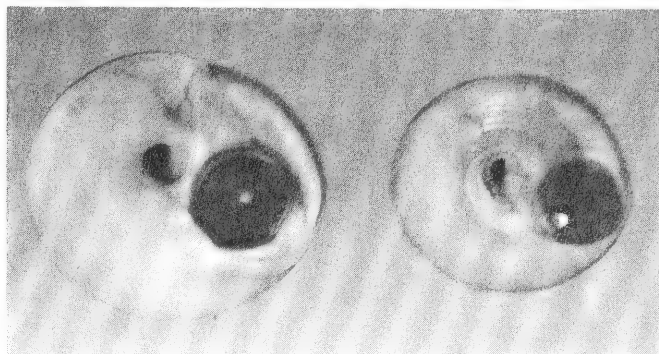


Fig. 25. Comparison of the most obvious differences between *Tegula pulligo* (left: AbS #82-229, leg. Glass, with shell pictured in fig. 24, approx. X 1.25) and *T. montereyi* (right: AbS #83-145, leg. Bill Pitt, 7/1967, on kelp, Monterey Co., approx. X 1.25). Note nearly obsolete, faint spiral threads around base of *T. montereyi* and weak spiral cords around umbilicus with prominent tooth on columella; *T. pulligo* does not exhibit these characteristics. The absence of the tooth is particularly suprising since it is considered diagnostic of *Tegula*.

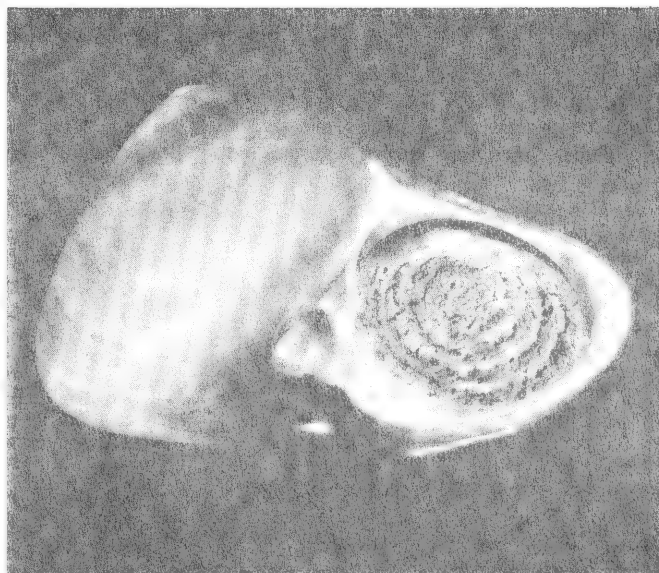
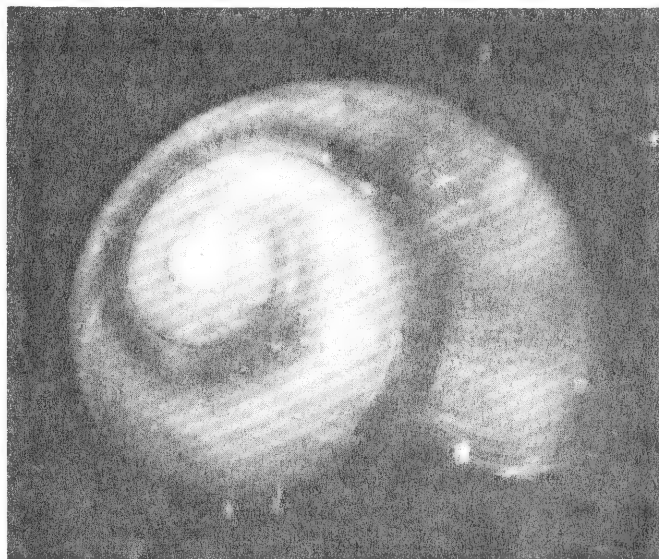


Fig. 26-27. Front and side views of *Norrisia norrisi*, AbS #81-072, approx. X 1.5, leg. Glass, Frenchy's Flats in ca. 30 ft., off Anacapa Is., Feb. 1981.





Fig. 28. *Norrisia norrisi*. Photo Bill Hagey.

If there is any encrustation on the shell, it is virtually impossible to clean without removing a lot of the brown exterior down to a pink, opalescent nacre as the exterior material is surprisingly impermanent in contrast to most shells.

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<sup>1</sup> *Lirularia* is considered by some authorities to be synonymous with a subgenus of *Margarites*.

<sup>2</sup> Tegulas are occasionally referred to with the common name, "turban shells", and some turbinids are called "top-shells". *Astraea undosa*, for instance, a turbinid, is referred to both as the "wavy turban" and "wavy top-shell". Such is the main problem with common names! The more accepted usage, however, what we are following here, restricts the use of "top-shells" for trochids and "turbans" for turbinids.

<sup>3</sup> We are specific about our method of taking measurements in this group, since, to us, it is somewhat unclear in the literature whether "length" or "height" measurements of shells with uneven bases are taken from the base line, through the axis of the shell to the level of the lowest point or of the maximum length which would be down the side of the shell to the base of the aperture, presenting, in some cases, a difference of 40% or more!

#### ADDITIONAL READING ON CALIFORNIA ABALONE

Cox, Keith W., 1960. Review of the Abalone in California, *California Fish & Game* 46:4, 381-406.

(An excellent review with 16 color plates — 8 figures, showing both sides of shells — and a drawing of soft parts, life history notes, key and references.)

## WHO'S WHO IN COA

Gene Stratton Porter's *Girl of the Limberlost* had a far-reaching effect on one young Minnesota girl. Ruth Greenberg, our immediate Past-President, became an amateur naturalist early in life through the book's influence, and maintains that interest today.

Born in Grand Forks, North Dakota, and growing up around Minnesota's lakes, Ruth graduated from the University of Minnesota, Class of 1936. During college and a subsequent marriage, and the rearing of her two sons, Dan and Phil, she added art, writing, and science to her roster of interests.

After 23 years of California living, and for love of the sea and its creatures, Ruth and her sister-in-law, Jan, opened their Tidepool Gallery on the beach at Malibu. The Greenbergs called themselves "part-time artists and full-time beachcombers". During this period, Ruth created craft objects from sea materials and did drawings and wood-cuts of shell forms.

Six months after the Gallery opening in 1969, Ruth discovered the world of specimen shells, shell clubs, and serious collectors — and the quest for knowledge of this shell world was on.

Ruth's travels have included Mexico, Samoa, Fiji, Solomon Islands, New Guinea, Australia, Singapore, Oman, Israel, London, Micronesia, and a visit to Japan in 1973 for the opening of the Nomozaki Marine Museum on Kyushu. She has judged shell shows in both Santa Barbara and Hawaii, and has appraised shell collections for estates, insurance, and museum donations.

Our subject is not interested in owning a great rare shell collection; these specimens go to her customers. She does collect ethnic and contemporary art, crafts, old and new baskets, succulents and cactus, driftwood, rocks, and self-collected shells. Ruth enjoys C.O.A., A.M.U., and W.S.M. meetings, especially visiting with and getting to know other members.

Currently Ruth's love is her summer home in Trinidad, northern California. There she has time for her creative art work: soft sculptures of crochet on natural sponges, carving small utensils of driftwood, and making porpoises from hardwoods. She can explore, garden, cook the local seafood, and pick berries and mushrooms to her heart's content. She has just joined the Humboldt Bay Mycological (study of mushrooms) Society, but is not neglecting malacology; she is assisting a friend in labelling, organizing, and collating the collection of the late Bob Talmadge for the College of the Redwoods in Eureka, Calif.

Ruth left her idyllic spot in Trinidad recently for an Alaskan cruise with 14 Sierra Club members and a crew of 6 on a 97-foot converted mine-sweeper. They followed a humpback whale herd playing near the surface, anchored in small, isolated inlets and bays, landed in only two tiny villages, fished, beach-combed, and hiked.

If reading Gene Stratton Porter's work can assure an adventurous life such as Ruth Greenberg's, there will certainly be a renewed interest in this author!

JAY J. TRIPP,  
C.O.A. Secretary-Historian

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The Editors

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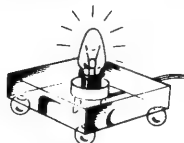
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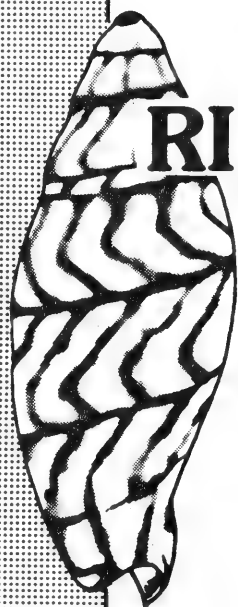
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# CONCHOLOGISTS OF AMERICA BULLETIN

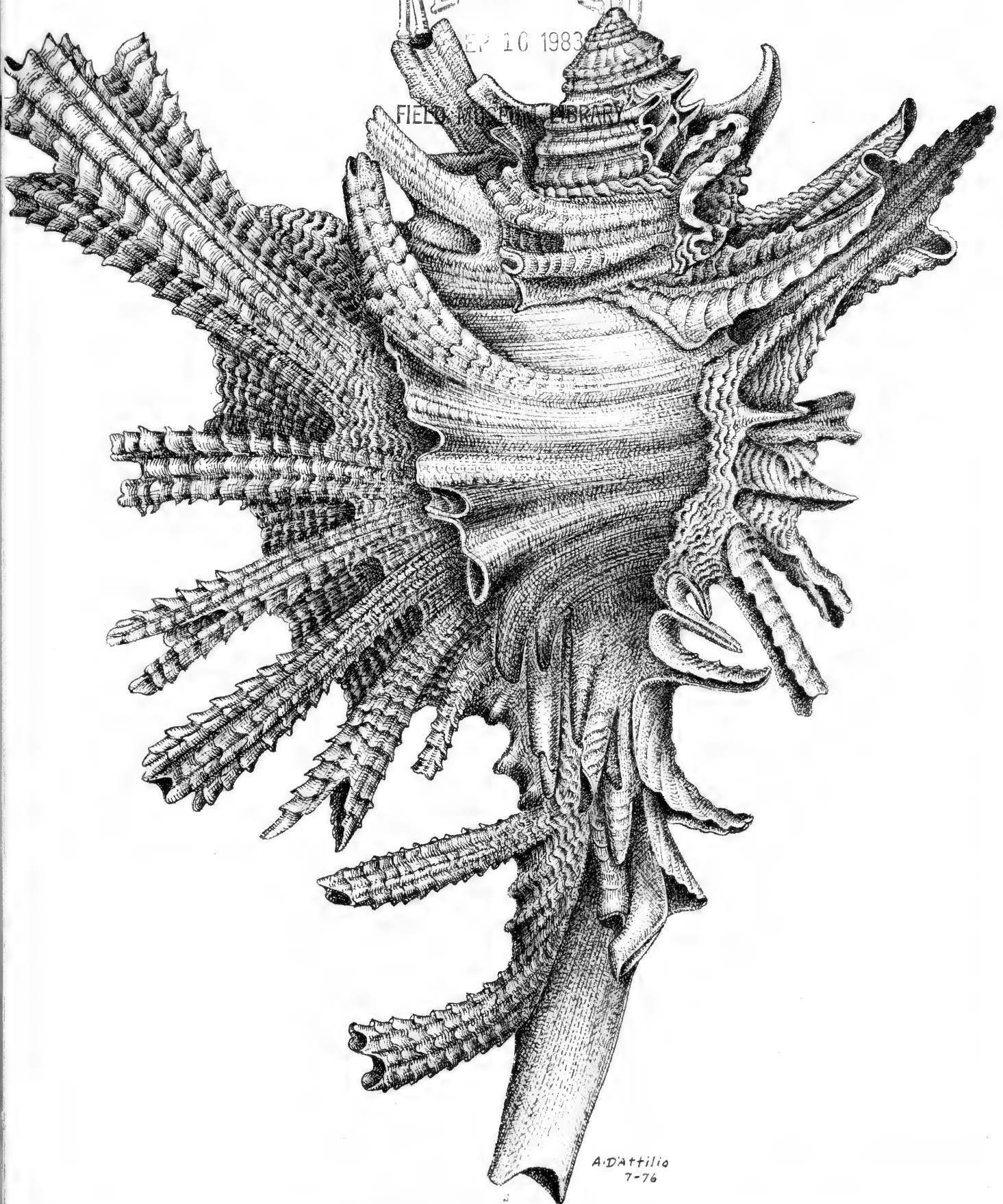
VOL. 11, NO. 3

SEPTEMBER, 1983

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In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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COVER PLATE: *Murexiella bojadorensis* (Locard, 1897), pen and ink by Anthony D'Attilio of a shell (AbS 74-3372) in the Foster & Glass Collection (see "Notes on Murex", page 35).

### HOW TO KEEP TRACK OF YOUR SHELLS

As most collectors know, keeping as complete data as possible on each of one's shells is important, not only for the scientific and commercial value of the shell, but for one's greater enjoyment and understanding. Most collectors give the shell a number and maintain a separate card-file or notebook, listing the appropriate date under that number. Some choose to write that number on the shell with ink or on a label; others write it on a slip of paper inside the shell. In our system, for instance, we give the shells a number beginning with the initials AbS (for "Abbey Specimen Shells") followed by the year in which it was acquired followed by the number that shell was given in that year, for example: AbS 83-500, the fifth hundredth shell we acquired in 1983. A 3 x 5 file card has the name of the shell, that number and any information we have about where it was collected, by whom or how, when, what sort of habitat (if known) and the amount we paid or how we acquired the specimen. It's a lot of work, but well worth it!

The Editors

## C. O. A. CONVENTION

The 1983 Conchologists of America Convention will be held at the Holiday Inn on Lido Beach in Sarasota, Florida. The dates are from Wednesday Sept. 21 through Saturday Sept. 24. The preregistration indicates that this will be a very popular convention with fellow shell collectors from all corners of the country attending.

Wednesday evening there will be a "Wine & Cheese" party at the Mote Marine Science Center. You can enjoy the refreshments and also view the exhibits on display. The daily programs will be varied and will contain some photography of live shells that you might never see anywhere else.

The convention will be climaxed by the banquet on Saturday evening. The speaker will be William G. Lyon of the Florida Department of Natural Resources. Bill just returned from a dredging trip off Southern Florida, and his topic will be "Dredging off East Florida".

Hope to see all of you at the convention. Join us for a "SUPER SEPTEMBER IN SARASOTA".

### LETTER TO THE EDITOR

I read with great interest the article on Haliotidae in the March '83 issue of the Bulletin, especially "The John Phillips Method" (of cleaning abalone shells) and think you might find the following of interest.

I have found a way of partially reviving the colors and/or patterns on shells like cones, volutes, *Tonna*, Cassidae, Cymatiidae, etc. Since mineral oil always leave a micron thin layer on the shell which attracts dust, an alternative had to be found. After much experiment I finally hit on the answer: anhydrous lanolin.

The material you need are:

1. anhydrous lanolin (in a glass jar with tight lid).
2. artist's paint brush.
3. black plastic sheet (a black garbage bag is fine).
4. pot, kettle or saucepan (for boiling water).
5. tongs (for handling hot jar).
6. several coths.
7. a hot, sunny day.

#### THE METHOD:

1. Place the shells you want to treat in the sunshine outside and cover with sheet of black plastic. This will heat the shells slowly without the risk of fading colors.
2. In a pan of boiling water, immerse a small, glass jar of anhydrous lanolin. Make sure no water gets into the jar. The lanolin, which is quite like 'Vaseline' in color and consistency, will melt in the jar until it is quite liquid. Remove from water with tongs.
3. Paint the liquid lanolin onto the *warm* shells with brush. Do not paint the shells if they are still cold; the lanolin will solidify immediately, and you will have a real mess on your shells!
4. Replace the lanolin-coated shells under the plastic sheet (still in the sunshine) and leave for about an hour. The lanolin will then penetrate the shell.
5. Wipe off all excess lanolin with a cloth until it cannot be felt on the shell anymore. And "voila!", you will be amazed how your shells look almost new!

I have used this method on hundreds of shells for many years, without any deleterious effects at all. I suspect it is because lanolin is designed by nature to protect hair, which is not unlike the substance of a shell's periostracum.

Charles E. Maris  
128 Mitchell Street, George 6530  
Republic of South Africa

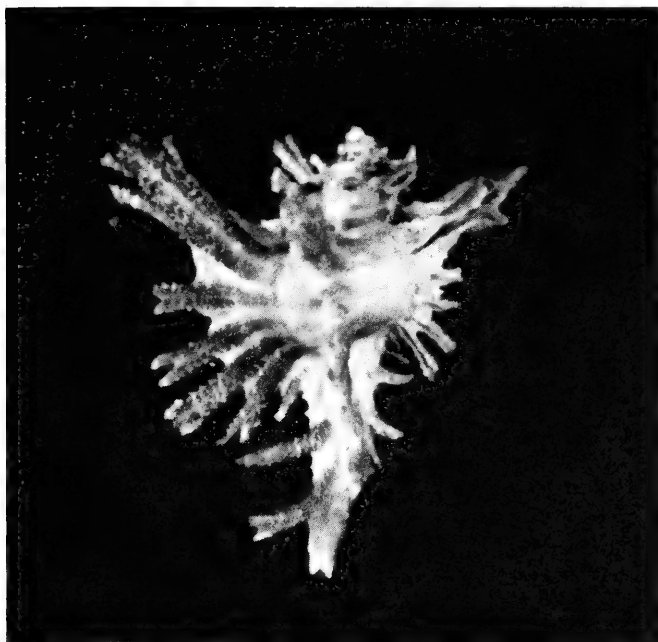
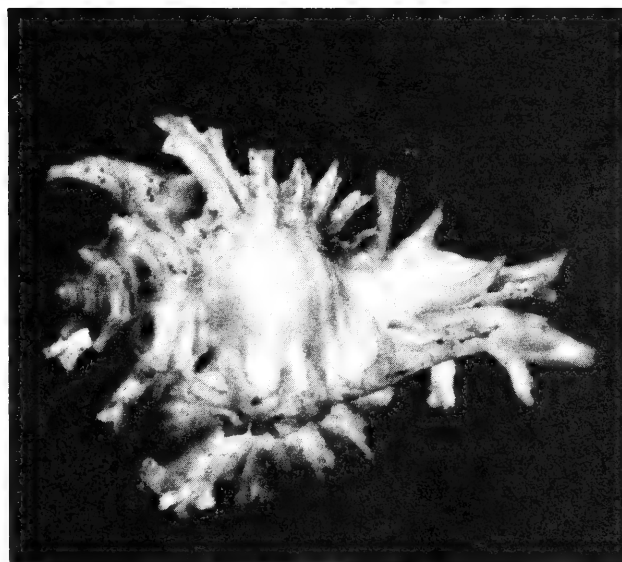
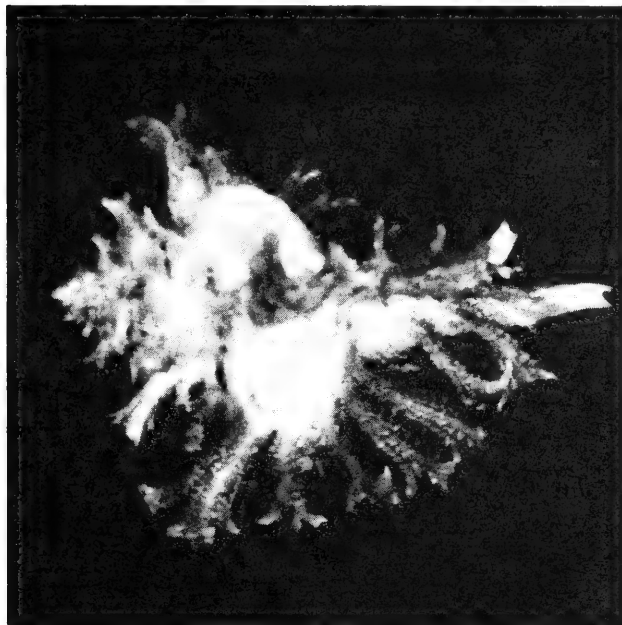


Fig. 1 (left). *Murexiella bojadorensis*, the specimen depicted on the cover, the form described by Nicolay as *M. asteriae*, from Somune, N'Bour, Senegal; actual size, 33 mm long. Fig. 2 (directly below). A 42 mm long specimen (Abs 78-012) of *M. bojadorensis* from 80-200 m off La Palma, Canary Islands. Fig. 3 (bottom). A rare "albino" form (Abs 81-037), 40 mm long, dredged from 200 m off Santo Antao Is., Cape Verde Islands. (Photos and shells, Foster & Glass).



## NOTES ON MUREX

by ANTHONY D'ATTILIO

San Diego Natural History Museum

*Murexiella bojadorensis* (Locard, 1897)

*Murex bojadorensis* Locard, 1897

*Murex asteriae* Nicolay, 1972

At the time "Murex Shells of the World", Radwin and D'Attilio, 1976, was published, this species of *Murexiella* was fortunately available to us for inclusion in the colored plates. Figure 98, page 156, is a photographic reproduction of the holotype in the Museum National d'Histoire Naturelle, Paris. The type is from 200 meters off Cape Bojador, northwestern Africa. Specimens were subsequently collected off Ghana, Africa, in 100 meters. Due to the obscurity of the shell of *M. bojadorensis*, the shell was named again as *Murex asteriae* Nicolay, 1972.

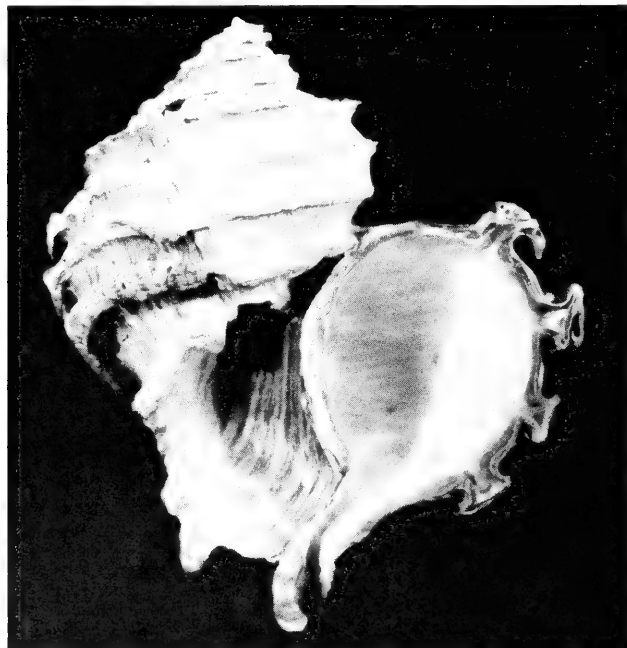
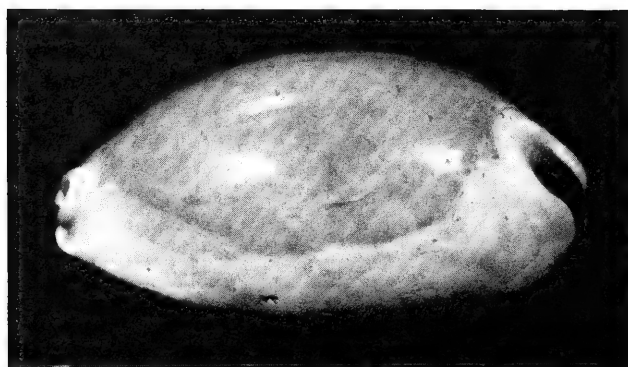
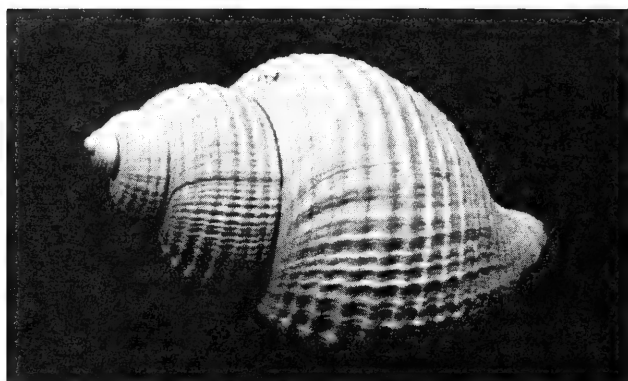
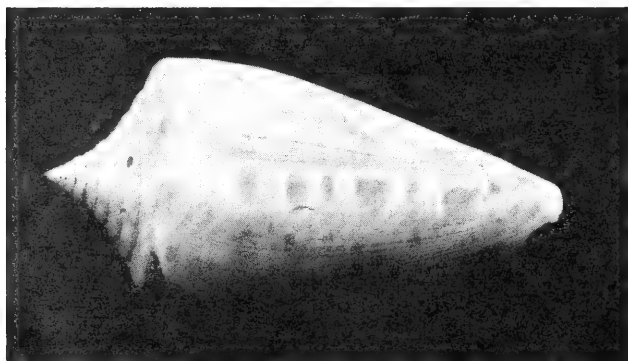
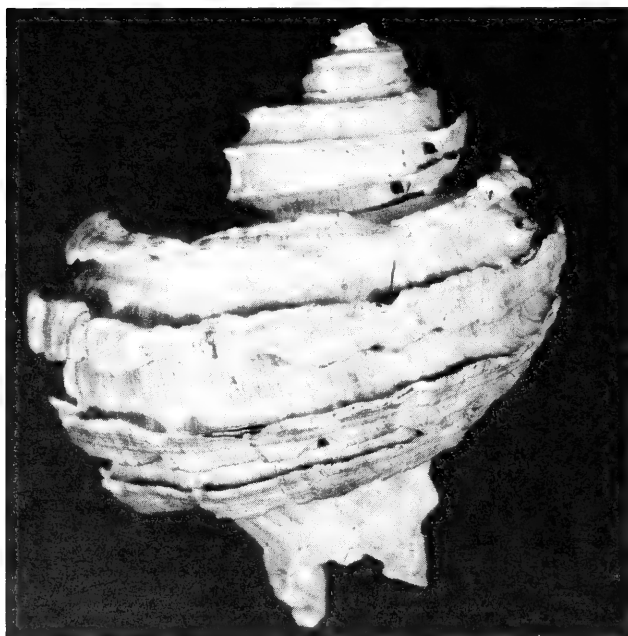
The type of *Murexiella* is *hidalgoi* (Crosse, 1869) from the western Atlantic.

A list of the known described species of *Murexiella*, in addition to the two named above, follows:

<i>Murexiella humilis</i> (Broderip, 1833)	Eastern Pacific
<i>Murexiella vittata</i> (Broderip, 1833)	Eastern Pacific
<i>Murexiella jacquelinae</i> (Emerson and D'Attilio, 1969)	Eastern Pacific
<i>Murexiella lappa</i> (Broderip, 1833)	Eastern Pacific
<i>Murexiella perita</i> (Hinds, 1844)	Eastern Pacific
<i>Murexiella radwini</i> Emerson and D'Attilio, 1970	Eastern Pacific
<i>Murexiella diomedaea</i> (Dall, 1908)	Eastern Pacific
<i>Murexiella keenae</i> Vokes, 1970	Eastern Pacific
<i>Murexiella laurae</i> Vokes, 1970	Eastern Pacific
<i>Murexiella mildredae</i> Poorman, 1980	Eastern Pacific
<i>Murexiella iemanjo</i> Petuch, 1979	Caribbean, Brazil
<i>Murexiella mactanensis</i> Emerson and D'Attilio, 1979	Philippines
<i>Murexiella peregrina</i> Oliviera, 1980	Philippines
<i>Murexiella martini</i> Shikama, 1977	Philippines

A number of species described in the genus *Favartia* may, with equal justice, be placed in *Murexiella*. Some authors have placed *Murexiella* as a subgenus of *Favartia*. The main character that differentiates the two genera is the development of the varical flange. It is very extensively raised as in *hidalgoi* and *bojadorensis*. Except for this more extensive varical development, there are a number of species assigned to *Favartia* whose generic placement is the subjective one of the author.

Disregarding the possible transfer of some *Favartia* species, the presently accepted number of known *Murexiella* species is sixteen. The species are found subtidally, often in considerable depths, and none are very common; some are known only from the holotype.



## SARASOTA FOSSILS

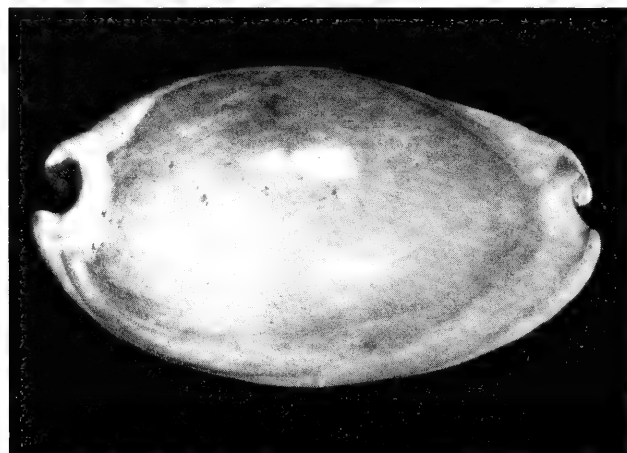
by CHARLIE ("The Old Fossil") HERTWECK

Have you ever picked up a shell on the beach and wondered what its ancestor looked like? You are in luck, because The Sarasota Shell Club has arranged a field trip to the fossil pit in Sarasota during the C.O.A. Convention, on Saturday, September, 24th, from 9 until 12:30.

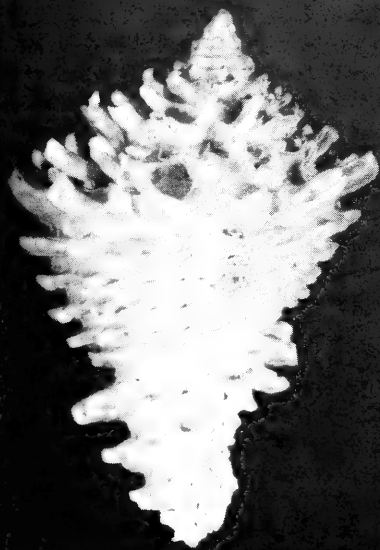
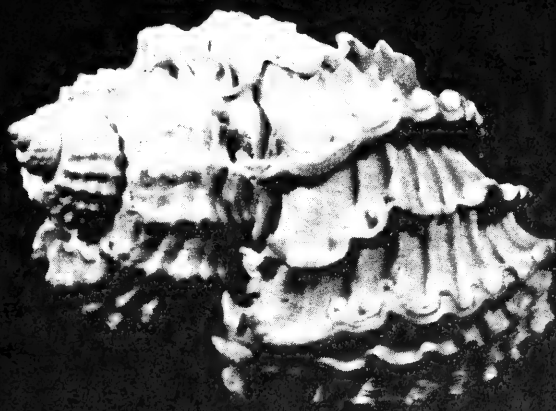
The pit contains fossils from late Pliocene (1 to 2 million years) to early Pliocene and even late Miocene (11 to 12 million years). If you have never collected here, your first thrill is to find a left handed cone, or a *Cypraea*, still shiny. There are some other fantastic finds, such as *Spondylus*, still attached, many forms of Muricidae and olives, so shiny they look like they were living yesterday. Of course the rarest find of all is an *Ecphora*, which is the marker fossil for the Miocene.

I, personally, save all the matrix from the inside of the shells and wash it thru a screen. The miniatures that may be found will amaze you.

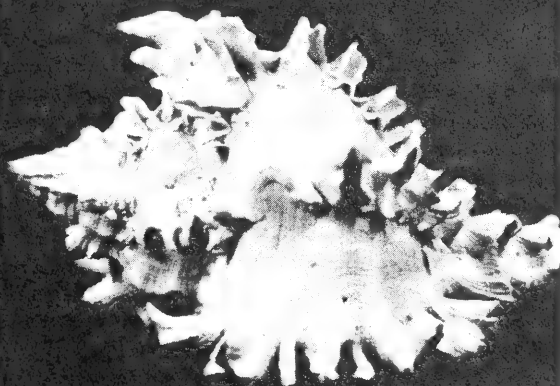
Finding the names of the fossils is a real chore. Many of the books are out of print and hard to get. The real thrill is finding the shell, cleaning it, and putting it in your collection to admire.







*Editors' Note:* Interested in the identity of these Sarasota fossils? Come to the C.O.A. Convention in Sarasota this month and find out . . . as well as others you may find on the field trip to the fossil pit! (Fossils pictured are in the Foster & Glass Collection; photos by Foster & Glass).





## DEEPWATER SHELLING IN A LAND-BASED DUMP

by CORINNE E. EDWARDS

It was after A.M.U.'s 1966 meeting that I first shelled on a scallop dump in North Carolina, where 180 species were reported to have been found. While at A.M.U.'s 1971 meeting at Cocoa Beach, Florida, I again collected small but choice shells and perfect pairs of quarter-sized "lion's paws", *Lyropecten nodosus*, on a scallop dump right beside the road. In October 1971, and again in 1972, while giving shell programs to children at the John Young Museum in Orlando, I was treated to trips for brilliant, little, one-inch "lion's paws" and other very special shell-collecting on a scallop dump in the woods and another one within the restricted entrance of a city dump at Cape Canaveral. It was there that I found my first egg case mass of *Tonna galea*. I even did a blue-ribbon shell show exhibit with my "take." One case was made up of 40 quarter-size brilliant red "lion's paws", and I also showed pictures of grown women scrunched down grubbing in piles of dead, smelly shells.

Then, in 1981, Florida shell club members discovered a commercial scallop fishery was dumping their waste material in a land-fill area at Port Canaveral near the Kennedy Space Center. I have a list of 108 univalve and 63 bivalve species from this dump; others, who have shelled there more than I, or who bring home buckets of small debris to scan under a microscope, may have many more species than that. There are some species being found that are not yet identified—all from *shelling on dry land*—a small rake is the only equipment one needs, except a strong stomach to withstand the smell of a scallop dump under the hot Florida sun.

Florida's east coast scallop beds were discovered in 1960 and by 1969-70 the yearly yield was 180-196,000 pounds of meat valued at \$172-196,000.00. The scallop beds extend over 200 miles of a 1200 square mile area. The greatest concentration is located in bands 800 meters long and several 100 meters wide off Cape Canaveral.

*Pecten gibbus* became *Aequipecten gibbus* and, in 1969, Tom Waller placed the "calico scallop" in the genus *Argopecten*. The left or upper valve is mottled red-maroon on a yellow-white background. The right or lower valve is mottled, but lighter in color. The meat, or the scallop muscle itself, though small, is said to be sweeter and the richest of all the scallops. The calico scallop is hermaphroditic, in the spawning season the sperm and then the eggs are ejected into the water to be fertilized. The life span is given as 24 months and full size as 80 mm. One enemy, other than the scallop draggers (not shell collectors overcollecting) is the sea star, and, for older specimens, it is a heavy encrustation or fouling of the upper valve which restricts its ability to swim or jet away when it senses an approaching sea star.

As soon as the scallop boats come in, I believe the trawled or dredged load is fed into a hopper and into a moving belt where helpers throw off large fish and large shells so that usable scallops can be seen and rapidly picked off, sent down a chute to the shore-based plant and machine processed to get the edible muscle. Scallops must be handled quickly and refrigerated. Trucks are loaded with the unwanted and still alive sea life coming off the moving belt. These loads consist of unbelievable numbers of small, clean, pink and white unwanted calico scallops, deep water mollusks of all kinds, fish, crustaceans, echinoderms, coral and sponge. At the land

fill area that "stuff" soon becomes, like all dead sea life, very smelly, full of maggots and covered with swarms of flies. Sea gulls, terns, roseate spoonbills, egrets, pelicans and other birds feed at the scallop dump. If you know how clumsily the pelican is as it tries to get airborne, then you can understand that some of these big birds become partly buried as they eagerly flock to the rich feast of flounder, octopus and squid even at it is falling from the uptilted dump trucks.

Shell collectors leave home before daybreak, or stay overnight at Cocoa Beach motels, so as to have a whole day or two of raking down the piles searching for plentiful and colorful deepwater shells - most of which run much larger than similar species near shore. It is backbreaking work searching among the masses of scallops, scallop shells, fish, eels, crabs of all species and other wasted material. We try to keep out of the way of trucks, often help rescue half-buried pelicans, and hope that the bulldozers don't come right away to flatten out the piles. We take garbage pails to the dump and great tightly covered containers for our collected still-alive or very dead shells. I carry formaldehyde solution for fixing crustaceans, echinoderms, rock shrimp, Bat Fish, Sea Horses and adorable, little, cookie-shaped sea stars—all for use in my three-day school programs on marine science. Would you believe we make 500 mile round trips in one day to collect dead and dying shells *on dry land*? We often leave behind our saturated, smelly sneakers and gloves. Would you believe we might even order scallops at the nearby restaurant if we stay overnight? We find ever-so-many species of deep-water shells that are much larger and more colorful than any of those that may be nearer shore as we snorkel for shells. Scallop dump collecting becomes a mania. We go again and again.

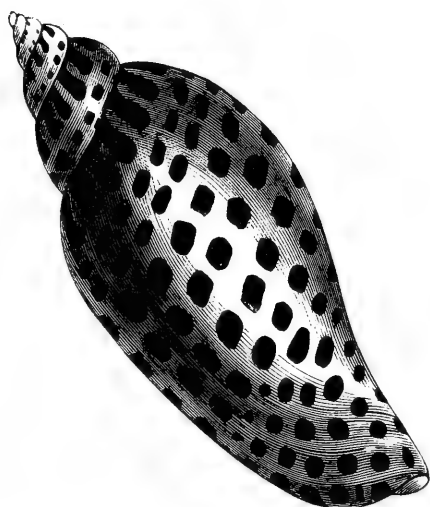
I was happy to find *Sinum maculatum*, the brownish "baby's ear," at the dump where we pick it up with its huge, purple body almost hiding the shell—I gathered plenty of them to preserve, body and all. We exclaim over *Conus delessertii*, Sozon's cone, *C. stimpsoni* and Julia's cone, now called *Conus amphiurgus*. I found my biggest and best *Scaphella junonia* on a flat area already bulldozed over, but they are not commonly found in the land-fill area. Back in 1971 we could gather a bucket full of junonias at the city dump but now-a-days the scallop boat crews know their value. They pick out the junonias and large shells in good condition—"lion's paws" and other special shells. Buyers meet the boats and buy whole boxes of junonias or other sorted shells for a price they can live with. Then they process them, doctor up any chipped lips, and sell them individually for a good price. That is why we do not often find junonias, or large or special shells in good condition in the land-fill scallop dump. Even pickers at the moving belt save shells, so we have learned to visit them or talk with the truck drivers and can buy fairly good, large shells for a dollar each—"knobby lion's paws", *Lyropecten nodosus*; *Cymatium parthenopeum*; Helmets; *Charonia variegata*, the "trumpet triton"; *Busycon carica* and more.

We go up to the scallop dump again and again for shells to clean for sales tables or for shell craft sales at our various Florida shell shows. Many shell club members collect at the dump to trade or to sell or maybe just to be able to make amazing growth series of shells once thought scarce. I like to clean and lay out whole trays of one species, say *Conus delessertii*, or *Phalium granulatum* (North Carolina's official state shell) just to see the variations in size, shape and color patterns of the species—it beats looking at just one picture in a shell book or on a screen where we are told "This is a

"sozoni" or that is a "scotch bonnet" - one is amazed at the variations.

Some of my favorite dump shells are yellow *Murex rubidus*, several color forms of *Oliva reticularis* in eye-popping sizes, "sun dials" (*Architectonica nobilis* are really big ones), *Distorsio clathrata* and *D. constricta macgintyi* in enough specimens to really see the differences. I have a love for "ark shells" so keep picking up great, periostracum-covered *Anadara lienosa floridana*. I like to get and compare all four species of *Cymatium* that are found at the dump. *Pleuroploca gigantea*, the official Florida State Shell, is found at the dump and I have been lucky enough to buy or find nice black periostracum-covered ones with brilliant orange aperture (and shell itself orange if or when I take off that black coat); but my favorite ones from the dump are *P. p. reevei*, the so-called "bumpless wonder" or "knobless wonder" and credited only to Sanibel or Florida's southwest coast - but there they are, coming in from offshore deep water. In great quantities we collect pairs of *Chione latilariata*, the "Imperial Venus", which I have never before found alive or in pairs. *Macrocallista maculata*, the "checkerboard" or "calico clam", is a nice big size so we treasure pairs of them as well as ever so many *Pecten raveneli* "fan shells" - one collector interested only in shellcraft kept breaking his apart and only saving the flat valve!

My favorite dump shell, for display and gift-giving and for shell show sales, is the big spiny *Murex fulvescens* with operculum or with the nice red hermit crab, *Petrochirus diogenes*, still in it. Once at the dump, one pile seemed to be mostly this giant murex. Each shell was heavily covered with tall, purple-yellow egg capsules. The scallop trawler must have scooped up a great communal gathering of females laying their egg capsules on each other's shell. Another time at the dump the pile I chose might be rich with great purple, flat "sea biscuits" - every visit to the dump is different. You should try it and take your chances of making a haul or finding the area bulldozed over and you will have to walk over the area doing the "Sanibel Bend". You will still find "sun dials", distorsios, tulips, "apple murex" with pink apertures, big "shark eyes", cones . . . . . that is how I found my best junonia - on the flat.



*Voluta (Scaphella) junonia* Shaw, 1808  
(taken from Wagner & Abbott's *Standard Catalog of Shells*, American Malacologists, 3rd edition, 1978).

## SHELLS IN PRINT

by RICHARD L. GOLDBERG

49-77 Fresh Meadow Lane, Flushing, N.Y. 11365

### LIVING SEASHELLS by Scott Johnson

One of the fascinating aspects of our hobby is the diverse side interests that we get involved with. Those who are field collectors, whether reef walkers or scuba divers, know that the animal or mollusk that inhabits the oceans provide as much curiosity as the shells themselves.

Most of the molluscan literature deals with the sculpture, beauty and scientific aspects of the shell, but few if any illustrate the animal. This void has been partially filled with the release of *Living Seashells* by Scott Johnson (Oriental Publishing Co., Hawaii). This 116 page, all color, soft-bound book is a compilation of the author's field photographs showing the animal and shell as you might encounter it in its habitat. The photographs and color reproduction are excellent and undoubtedly took the author many years to amass such a fine set.

Each shell has its Latin and common name, along with the size of the illustrated shell. The photographs are grouped by family and each family is introduced with some text. A short introduction opens the book discussing the Animal and Distribution, and two short sections conclude the book covering camera techniques (underwater), and Conservation.

Even though *Living Seashells* might not fit into the category of an identification book for the shells, it provides a fascinating look at the animals that produce these shells we collect, and may just make us respect and understand why we must protect our oceans. As Mr. Johnson states in the book, "As long as the *habitat* is not damaged, changed or destroyed, rational activities of shell collectors are probably not detrimental to shell populations."

**A Review of the Columbariinae (Gastropoda: Turbinellidae) of the Western Atlantic with Notes on the Anatomy and Systematic Relationships of the Subfamily** by M.G. Harasewych (Scientific Paper: NEMOURIA - No. 27, April 29, 1983)

In this recent paper published in *Nemouria* (Occasional Papers of the Delaware Museum of Natural History), the author places this group in Subfamily status of the Turbinellidae. Three new species are proposed, *Fulgurofusus (Fulgurofusus) ecphoroides*, *F. (Histricosceptrum) xenismatis*, and *F. (Peristarium) timor*. Their type localities are 180 miles N.E. of Tijoca, Para, Brazil, in 150 fathoms; off northeastern Nicaragua in 192-263 meters; and off Cape Fear, North Carolina, in 407 fathoms, respectively.

All of the known species of the western Atlantic are well illustrated, and the author has covered anatomical and well as morphological data. The research is in depth and this is the most current and important paper on this group to date. It is available from the Delaware Museum, Box 3937, Greenville, DE, 19807, at the cost of \$2.00.

### CLUB NEWS

On May 5th 1983 the reorganization of the Low Country Shell Club of Charleston South Carolina took place at the home of Raymond Pease. Officers elected were, Raymond Pease president, Mary Robb vice-president, Mary Kick secretary, Walter Morgan treasurer.

Meetings will take place at 7:30 p.m. the first Thursday of the month at the Jewish Community Center on Wallenberg Blvd. All visitors welcome.

Additional information and all correspondence can be sent to Mary Robb, 2213 Pinehurst Ave., Charleston, S.C. 29407.

## C.O.A. GRAND TROPHY WINNERS



Fig. 1. Don Young with his C.O.A. Grand Trophy.

Sarasota Shell Show, Florida Jan. 28-30, 1983

Winner: Don Young

Title of display: The Adopted Shells

Don Young's award winning exhibit presented the marine, land, freshwater and fossil shells that are either the adopted emblem, symbol, logo, insignia or official shell(s) of the 161 Shell Clubs and Malacological Societies around the world. Included in this 45 foot long display were their club pins, T-shirts and publications. In addition to the C.O.A. Grand Trophy, the exhibit won the "Most Beautiful Award" and the "Exhibitors Award."

Don started collecting shells soon after retiring to Treasure Island, Florida in 1978. It was when he cut a big toe on a "Lightning Whelk" (*Busyon contrarium*) while swimming at Fort De Soto park. He retrieved the live 11 inch specimen. . . and became addicted. He says that he is not seeking a cure!



Fig. 2. Kermit & Gloria Pearson, Cape Coral, Florida

Sanibel Shell Show, Sanibel, FL, 3-6 March, 1983

Winners: Kermit & Gloria Pearson

Display: Self Collected Shells of Micronesia

11 cases totalling 27½ feet consisting of the families Mitridae, Conidae and Terebridae

Kermit was born in Iowa and his profession was a radar engineer. Gloria was born in Brooklyn, N.Y. and was a commercial artist. They spent 5 years on Kwajalein Atoll in the central Pacific where they began collecting seashells by reef walking, snorkeling and SCUBA diving.

British National Shell Show

(organized by the B.S.C.C.), London, 23 April 1983.

Winner: Mr. Alex R. Arthur

Title of display: Trochidae In The Mediterranean Sea

A comprehensive captioned display of the Trochidae in the Mediterranean which included many seldom seen, poorly known species and varieties.

Alex Arthur, 21, has been collecting seriously for several years, and specializes in the family Cymatiidae and in Mediterranean Marine Mollusca. His collections of these categories are probably the best in the U.K. He began collecting seriously whilst living in Italy. This years' B.S.C.C. show was the first time that A. Arthur has exhibited in a shellshow.



Fig. 3. Bill & Sue Vaughan's award winning display, "Collecting Seashells".

Jacksonville Shell Show, Jacksonville, Florida July 29-31, 1983

winners: Bill & Sue Vaughan

title of display: Collecting Seashells

The exhibit showed where to find shells in shallow water, snorkeling, scuba diving and dredging. Also shown were the seven classes of mollusks, including details on their eating, defense and reproductive habits. Besides live photos there were models of many mollusks. An aquarium and a video presentation accompanied the exhibit.

Bill & Sue Vaughan have been shell collectors since 1978, but according to Sue, "We really didn't consider it a real hobby until we moved to Georgia from California 2 years ago, and joined the Georgia Shell Club. That is where we have gained our knowledge and caught the 'bug' of shell collecting, now we're hooked." They also received the duPont Trophy for their lovely display at the Georgia Shell Show in March.

C.O.A. Grand Trophy winners or shell show chairpersons are invited to submit information about winning exhibits and photographs for possible inclusion in the Bulletin. Please include stamped, self-addressed envelope if pictures are to be returned. Shell shows which wish to award the C.O.A. Grand Trophy should apply by writing to Anne Joffe, 1163 Kittiwake Circle, Sanibel Island, FL 33957.

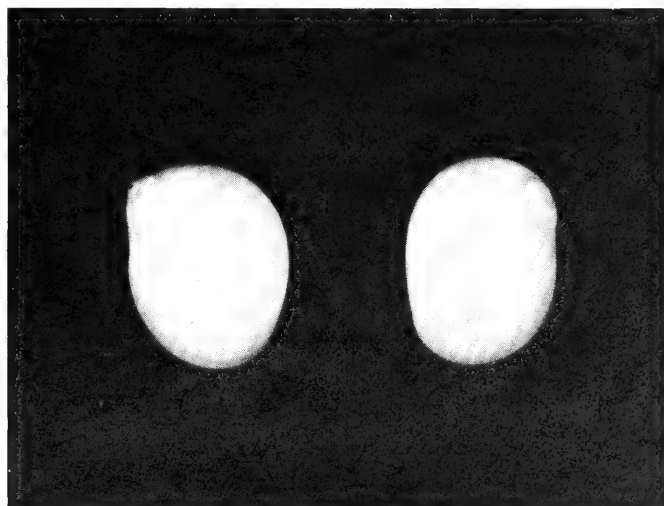
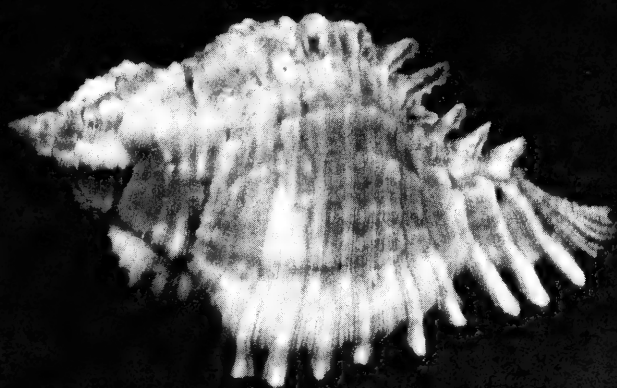


Fig. 1 (left). A fine specimen of *Chicoreus thomasi* (Crosse & Fischer) in the collection of Rev. Jack Wilkens, Florida, collected by diver in 60 ft. in rock crevices off Van Vatu in the Marquesas Islands. This taxon, described in 1872, was treated (incorrectly in our opinion) as a synonym of *C. maurus* by Radwin & D'Attilio. Fig. 2 (above, right). A normal and rare sinistral (or "left handed") form of *Polinices mamilla* L. (Abs 83-488, 489), collected in 1979 10 ft. of water in the Sulu Sea, Philippines; approx. X 1.6.

## SHELLS FOR THE AMATEUR

by R. FOSTER & C. GLASS

Fig. 4 (below, left). *Morum cancellata* (Sowerby), trawled in deep water out of Taiwan. This species is distinguished from the other larger species by its white base (approx. X 2). Fig. 5 (below, right). *Turbo sarmaticus* L., from Table Bay to Transkei in South Africa where it is referred to as "ollycrook" (from the Dutch word for "periwinkle"). Baked in their shells the meat is a local delicacy! Note the marvelously textured operculum!

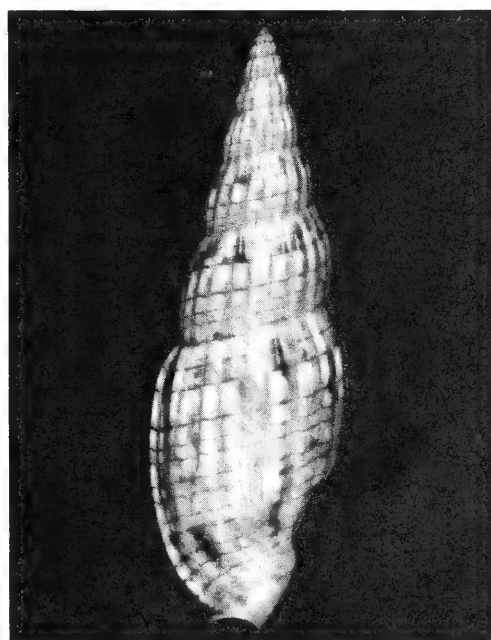
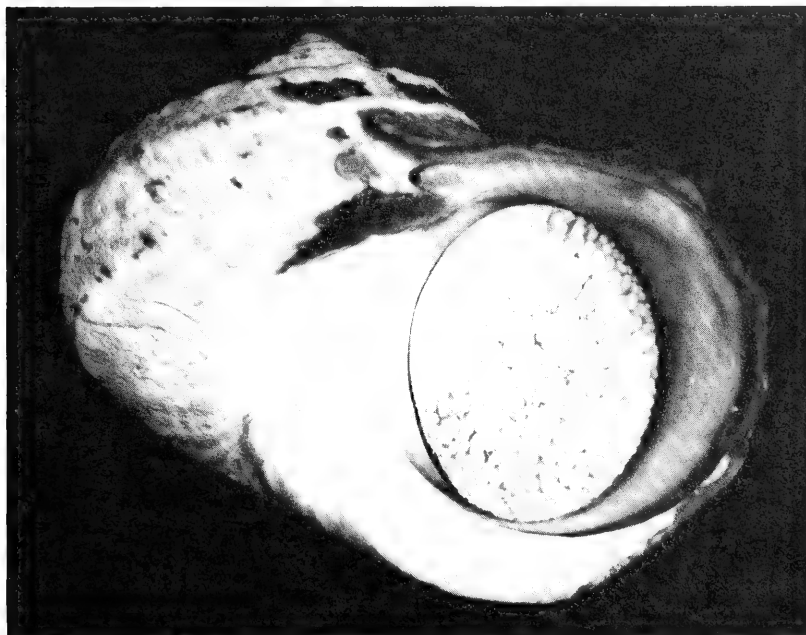


Fig. 3 (above). *Lyria vicdani* Kosuge, a new species from Balut, Philippines. This specimen (Abs 83-487), 53 mm long, was taken in deep water by gill nets in May of 1982.





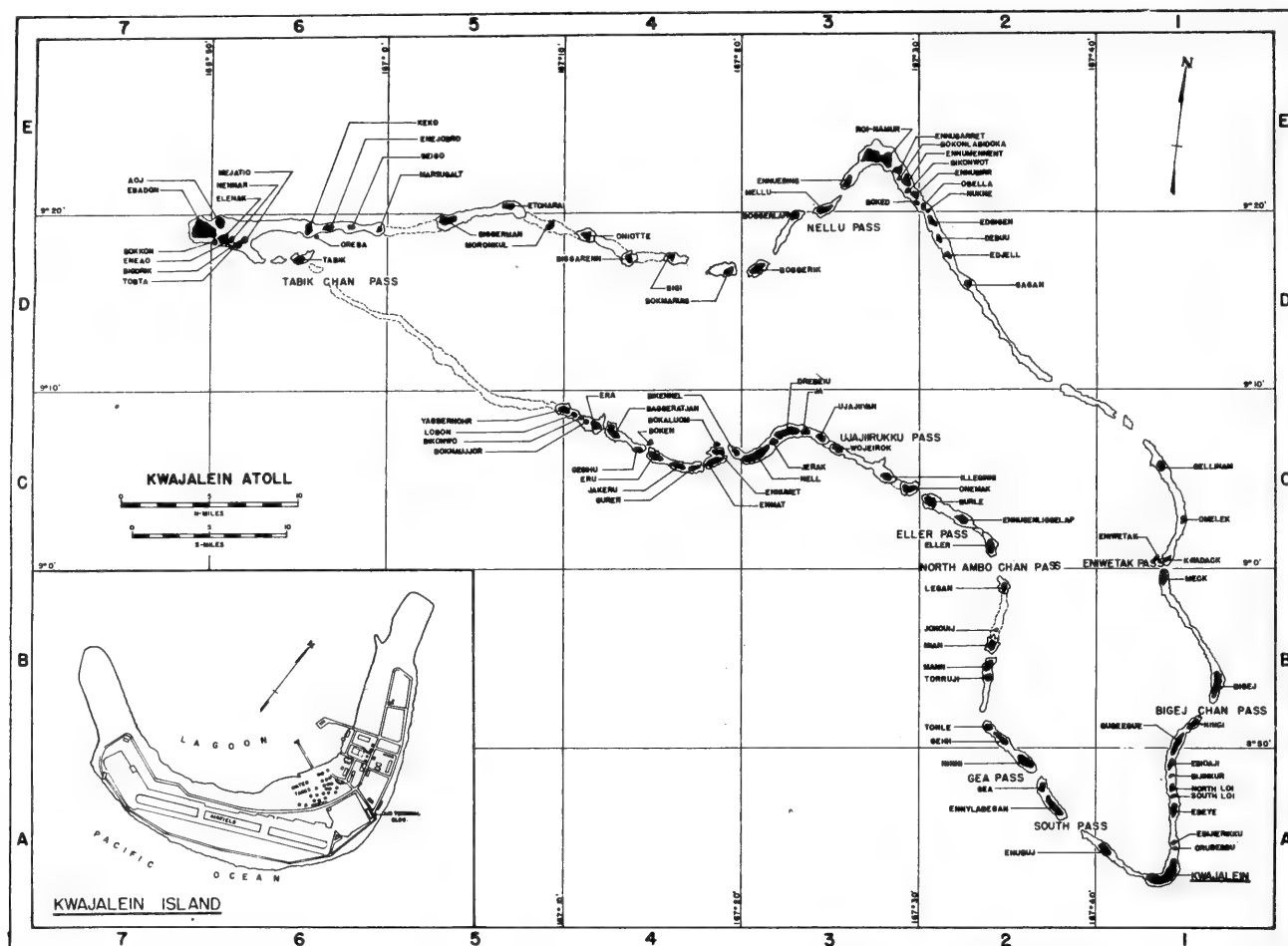


Fig. 1. Map of Kwajalein Atoll, Marshall Islands.

## NIGHT DIVING—KWAJ STYLE

By JEANETTE HAMMON

The Marshall Islands are located approximately 2400 miles SW of Hawaii and consist of 33 coral atolls. The largest of these, and in fact, the largest atoll in the world, is Kwajalein, with nearly 90 tiny coconut palm covered islands strung like emeralds on a necklace of coral reef. Once the scene of a fierce battle during WW II between the Japanese and Americans, several of the islands, including Kwajalein, are now leased by the U.S. for military missile testing and tracking. Kwajalein is the temporary home for 3000 civilian personnel which support this Army test site.

Sunset at Kwajalein Atoll brings the end of another glorious tropical day to most of the residents, but to a few SCUBA divers, it means the beginning of an exciting shell collecting adventure.

Leaving Kwajalein harbor at least half an hour before sunset insures enough daylight to locate a good anchorage along the outer reef dropoff. Once safely anchored, there is an hour or so before the dive to recheck gear, have dinner, or just relax and watch for the elusive green flash as the sun sets.

Night diving along the west reef began at Kwajalein in 1972, primarily for shell collecting, and for the past eleven years much has been learned about the mollusks that inhabit this reef at depths ranging from 20' to 70'. A popular and heavily dived area during the day, night diving here reveals hundreds of mollusks, a few of which are extremely rare

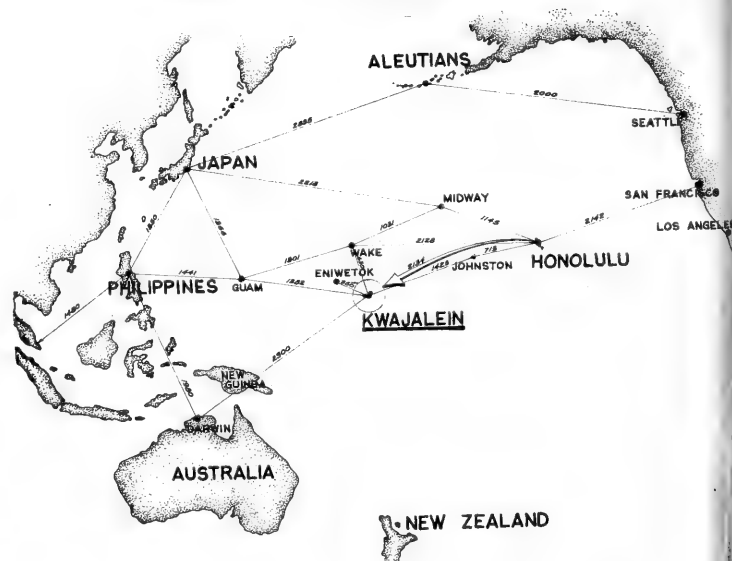


Fig. 2. Kwajalein, 2,400 miles southwest of Hawaii.

during the day but found with some regularity at night and without ever having to turn over a rock!

As the dive begins, some 60 minutes after sunset, two buddy pairs of divers enter the water with the first priority given to a quick check of the two anchors to make sure the lines are not chaffing against the sharp coral. Two lights are carried by each diver to safeguard against an all too common

light failure. As the hunt begins, the buddy pairs split off in different directions along the drop-off which begins at a depth of 20' and slopes down at a 50° to 80° angle to a depth of 12,000 feet! Following the reef, one diver takes the shallow end at say, 50' and the other 10' beneath him at 60'.

Surely the most exciting shell found at this depth is the "Golden Cowry", *Cypraea aurantium*. Occasionally found in small caves and under ledges during the day, they are frequently found at night crawling with their mantle extended, in the open. As your lightbeam falls upon one of these exquisite mollusks, its light sensitive mantle parts to reveal the brilliant orange shell, an experience no one is ever likely to forget. Other cowries found along the drop-off are: *Cypraea argus*, *beckii*, *bistrinotata*, *carneola*, *childreni*, *cribraria*, *helvola*, *fimbriata*, *isabella*, *mappa*, *margarita*, *mariae*, *microdon*, *nucleus*, *poraria*, *punctata*, *scurra*, *teres*, *testudinaria*, and *tigris*. Many of these do not retract their mantle when exposed to a diver's light and may go unnoticed until you learn to recognize them.

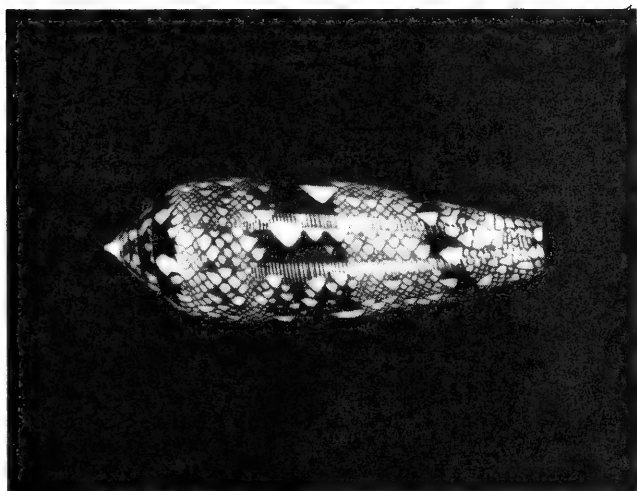


Fig. 3. *Conus auricomus* coll. by author, shown slightly enlarged (Photo Foster & Glass).

*Conus auricomus* is an uncommon shell and when found is often crabbed. It became the object of a year-long search to locate a live specimen for my collection. Several live shells had been found by other divers at night in small caves and a few under rocks along the drop-off during the day. It was my frustrating experience to find a Kwaj. record specimen, 56.4 mm, dark colored and perfect except for a huge bite taken out of one side presumably by a species of fish (Wrasse) that preys on mollusks in this area.

It was recommended that I search the small caves and overhangs along the drop-off and in the surge channels, a habitat frequented by many mollusk species some of which are certain to be hunted by *C. auricomus* which is considered to be molluscivorous. One night around 11pm in December after 40 minutes of a rather unsuccessful shell dive, I discovered a perfect 45 mm specimen just emerging from behind a cave wall at a depth of 35' far up in the shallower end of a surge channel. My heart was pounding but more than the excitement, I remember thinking over and over, "finally!"

Other cones found oceanside of west reef are *Conus auratus*, *boeticus*, *capitaneus*, *coelinae*, *cylindraceus*, *distans*, *floccatus*, *geographus*, *glans*, *imperialis*, *legatus*, *litoglyphus*, *luteus*, *marmoreus*, *moreleti*, *nussatella*, *obscurus*, *pertusus*, *retifer*, *tenuistriatus*, *terebra*, *varius* and *vexillum*.

Always uncommon are the murex but often a red sponge covered (or perhaps it is periostracum) *Chicoreus saulii* is spotted out in the open. Other murex include *Chicoreus microphyllus*, *Naquetia trigonula* and *triquetra*.

Bi-valves are found in small honeycomb-like holes while terebras, nassarius, olivas, strombus, turrids, ceriths, miters and some cones are found near or in sand pockets or sand covered ledges. The majority of shells listed are found crawling on rocks, in small caves or on hard algae covered substrata.

My favorite finds were among the Mitridae and Costellariidae and include *Mitra nivea*, *fulvescens*, *ustulata*, *Vexillum crocatum*, *speciosum*, *interruptum*, *Pusia millicostatum*, *microzonias*, *catenatum*, *turben* and *Thala mirifica* to name a few.

The shells listed above represent but a partial list of what has been found with some regularity but certainly not by all divers or at all times. Weather, moon phase and time of year play an important part in determining the degree of shell activity and added to these is the limited amount of time divers are able to spend in the water. At 50-60', the length of our dive is limited to 50 or 60 minutes depending on air consumption. With a short surface interval, another dive can be made to 30-40' for about an hour. Finding one new species and 3 or 4 unflawed specimens for your collection is considered to be a very good night.

The thrill of night diving is not limited to finding mollusks but to discovering the great diversity of creatures that venture out from beneath the rocks to feed and mate. Feather stars, shrimp, urchins, starfish and crabs are found everywhere along with sleeping parrot fish and occasionally a sleeping turtle. Lion fish as well as eels of all sizes are active and hunting for food. Tiny krill by the thousands sometimes surround our lights, much like moths to a flame, often obscuring the light and plunging us into almost total darkness. White tip and grey sharks cruise past at a distance and often circle perhaps out of curiosity or to let us know we've entered their territory. They are always intimidating and many a first time night diver has found sharks to be an unacceptable factor of the night diving experience in spite of the fact that there has never been a serious problem with sharks in the 11 years of oceanside night diving at Kwajalein. Persistence, feeling at ease in the night diving environment, experience in recognizing the living mollusks and most importantly, luck in shining your light in the right place at the right time, are the secrets to successful shelling at night.



Fig. 4. Kwajalein Island, in the southern corner of Kwajalein Atoll, as seen from the air.

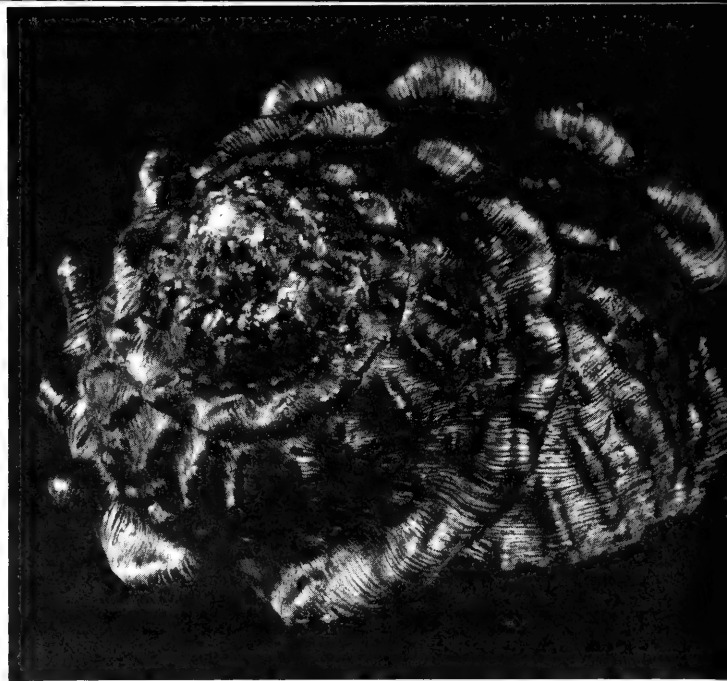
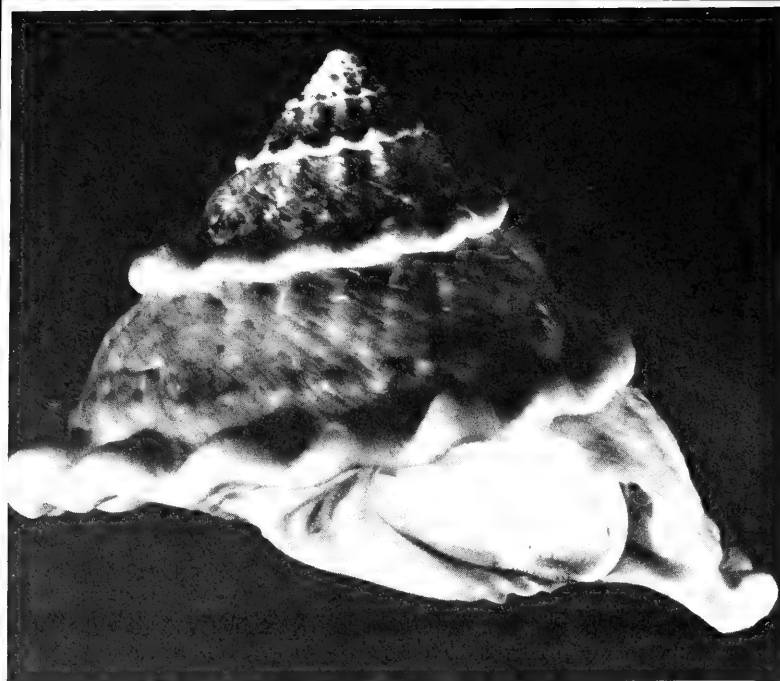


Fig. 1. *Astraea undosa* (Abs 81-2691) from about 30-55 ft. off the Santa Barbara Channel Islands, approx. X 0.7. Fig. 2 (right). Another specimen (Abs 806) from the same area, shown with its thick, dark, golden brown periostracum. Leg. Glass, Feb. 1981.

## CALIFORNIA SEASHELLS PART V: TURBINIDAE

by C. GLASS & R. FOSTER

Only two genera of "turban shells" or trochids are represented in California's coastal waters, namely *Astraea* and *Homalopoma*. The astraeas are among the larger of California's marine mollusks, the homalopomas among the smallest. As we stated in the last article, members of the Turbinidae are separated from those of the closely related Trochidae by their calcareous, thickened operculum.

*Astraea undosa* (Wood, 1828), the "wavy turban", because of its size and visibility, is the most commonly encountered in the waters off southern California. It is separated into the subgenus, *Megastraea* by virtue of its large, thick, fibrous periostracum and sculptured, triridged operculum. Its closest relative is *A. turbanica* (Dall, 1910) off Baja California. The shell of *A. undosa* is pink to tan to occasionally white, particularly in the final whorl of extra large specimens; the earlier whorls are darker. The swollen, convex whorls are sculptured with ripple-like, slanting undulations which run perpendicular to the "grain" or angle of the aperture; these ripples or ridges often break up in the lower portion of the whorl into warts or bumps. The most prominent characteristic of the species, however, and the one which gives it its name, is the flaring, wavy, enlarged periphery of the whorl, similar to the edge of a pie crust shell. The shell is covered with a thick, rich brown periostracum, the texture of matted hair. This periostracum makes the shell relatively easy to clean since the encrustations pop off rather readily once the periostracum is dissolved in chlorine. Occasionally shells are found with only a soft, mustard color encrustation which scrapes off quite easily, leaving the periostracum intact which may then be preserved with a solution of glycerine and water.

The base of *A. undosa* is characterized by (3-)5-6 sometimes quite prominent spiral cords and by the absence of an umbilicus. The size is given as 50 (to 75) to 110 mm in height. Our largest shell, Abs #82-399, measures nearly 120 mm in height through the central axis to the level of the lowest point and 138 mm in maximum diameter. Shells of this exceptional size we have mostly found in about 50 ft. of water

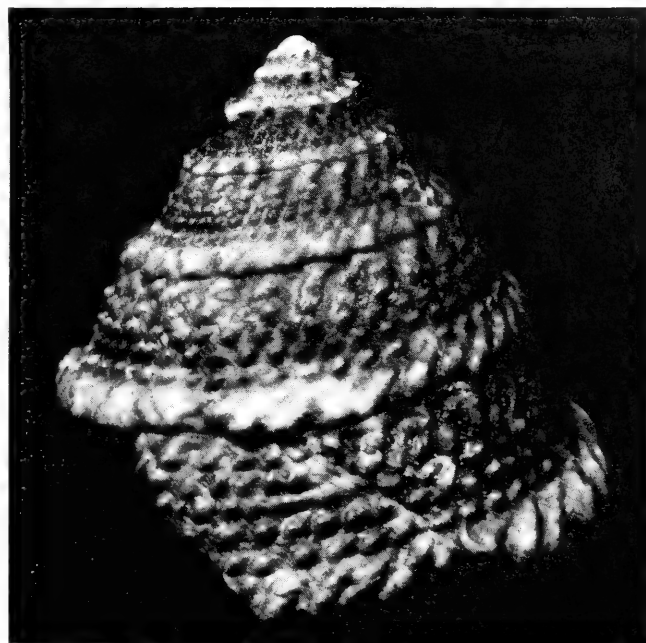
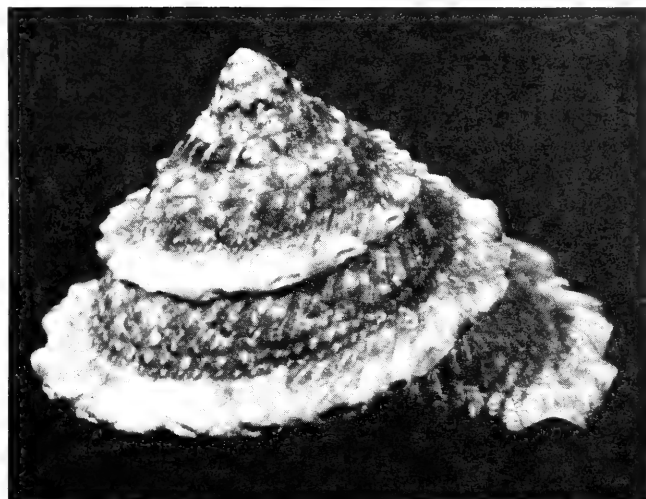
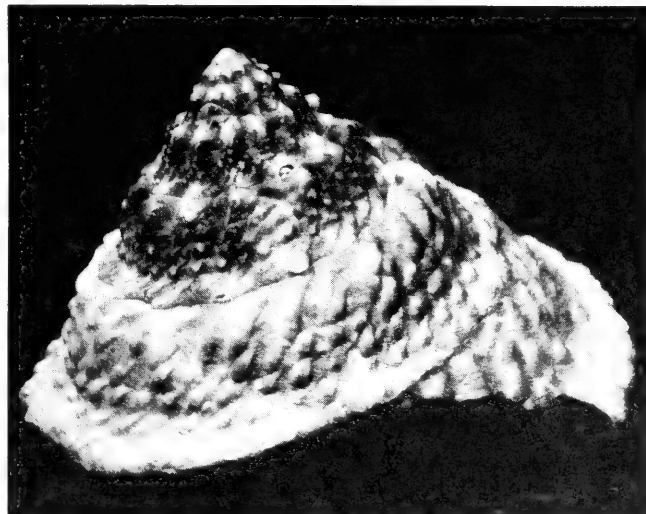
on rocky reefs in kelp beds at an area known as "Yellow Banks" off the southeast end of Santa Cruz Island. The range if *A. undosa* extends from Point Conception to central Baja California. We have found it most commonly around Santa Cruz, Anacapa and Santa Rosa Islands in 30 to 50 feet of water.

*Astraea gibberosa* (Dillwyn, 1817), the "red turban", is considerably smaller than its cousin, brick-red in color, without the prominently wavy periphery or the thick, brown, fibrous periostracum; the operculum is smooth, white, convex, swollen, with a shallow furrow but without the deep, angular sculpturing of *A. undosa*. Characters it shares with the larger species are the similar, slanting undulations going against the grain or slope of the aperture and dissolving into 2 rows of bumps near the bottom, before the peripheral flare; darker early whorls; similarly but more tightly corded, beaded spiral ridges around the base, the grooves more prominent and narrower; and the absence of an umbilicus.

*A. gibberosa*, where their ranges overlap, generally occurs at slightly greater depths than *A. undosa*, though we have occasionally found them sharing the same habitat: in 45 feet at "Sandspit", southeast San Miguel Island, at Fraser Cove off the west end of Santa Cruz Island, near Gull Island off southern Santa Cruz, off Palos Verdes by Marineland, and off White Bluff on the east side of San Clemente Island. We have also found *A. gibberosa* at Carmel, on Naples and Camby reefs near Santa Barbara and Horseshoe Kelp reef out of the Los Angeles Harbor, but most abundantly around San Miguel Island in 45 to 70 feet and in about 65 ft. off the southwestern side of Santa Rosa Island. In the northern, colder part of its range it occurs in shallower water. Its range is from Queen Charlotte Island off British Columbia to Magdalena Bay, Baja California.

Height for *A. gibberosa* is given as 30-50(-75) mm; our tallest specimen, Abs #82-1455, measures 42 mm high and 50 mm in diameter; our broadest specimen, Abs #82-354, measures 39 mm in height but 56.5 mm in diameter, so the

Fig. 3 (below, top). *Astraea gibberosa*, AbS 82-354 coll. by Glass & Nydam, 1/82, in 50-60 ft. on rock bottom off S.W. Sta. Rosa Island, approx. X 1.5. Fig. 4. (below, middle). *A. gibberosa*, AbS 82-974 coll. by Glass & Conrad, 3/82, in 30-60 ft. by Gull Is. off Sta. Cruz Is., approx. X 1.5. Fig. 5. (below, bottom). *A. gibberosa*, AbS 82-1455 coll. by Glass & Gerdan, 6/82 off "White Bluff", S.E. San Clemente Is. in 40-50 ft., approx. X 1.6.



conical shape is obviously somewhat variable. A good shell is hard to find! Most specimens are heavily encrusted, and with its thinner, closely adhering periostracum, encrustations are difficult to remove. Often, underneath, the shell is badly eroded.

This species, undoubtedly because of its characteristically variable sculpturing, has many synonyms, among them: *A. inaequalis* Martyn, *A. guadalupana* Berry, *A. montereyensis* Oldroyd, *A. lithophorum* Dall and *A. magdalena* Dall, *Turbo rutilus* C.B. Adams, *T. ochraceus* Philippi and *T. diadematus* Valenciennes.

Five or six species of *Homalopoma* are listed for California: *H. luridum* Dall, *H. carpenteri* Pillsbry, *H. baculum* Carpenter, *H. paucicostatum* Dall, *H. juanensis* Dall and *H. grippi* Dall; *H. carpenteri* is considered by some a synonym of *H. luridum*. Those who recognize it, separate it on the basis of larger size and greater number of spiral cords. Here it is treated as a synonym. *H. baculum* is similar but smaller (to 4 mm) and smoother.

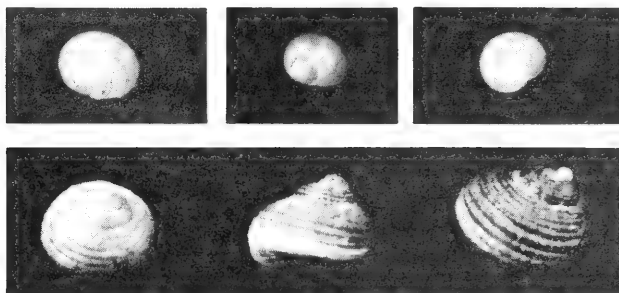


Fig. 6 (top row, left). *Homalopoma grippi* (Dall, 1911), Abs 83-157 ex Thelma Crow, Isthmus, Catalina Is., 30-60 fm, 1970, approx. X 2.5. Fig. 7 (top, center). *H. baculum* (Cpr., 1864), Abs 83-154, leg. J. Wilkins, Carmel, 1968, approx. X2. Fig. 8 (top, right). *H. berryi* McLean, 1964, Abs 83-153, leg. Thelma Crow, dredged off Ensenada, Mexico in 20-40 ft., 1961, approx X 3. Fig. 9 (bottom row). *H. luridum*, Abs 83-221-223, leg. Glass & Yu, May 1983 in 20-40 ft., under rocks, Cueva Valdez, Sta. Cruz Island, approx. 1.6.

*Homalopoma luridum* (Dall, 1885), the "dark, dwarf turban", is the main species with which we are familiar. It is likely to be overlooked or undiscovered by divers as its main habitat seems to be the underside of rocks. Fortunately the magnification effect of the air space in the diver's face mask makes the critters easier to see (but no easier to pick up, especially with thick divers' gloves!). We have found it most commonly under rocks at the base of a landslide in 20 to 40 ft. of water at Cueva Valdez Anchorage on the front side of Santa Cruz Island. We have also collected the species on Naples Reef, west of Santa Barbara, by Fraser Cove, Yellow Banks and Twin Harbors at Santa Cruz Island and on "Coral Reefs" off the backside of the large island of the Anacapas. The range is from Sitka, Alaska to San Geronimo Island off Baja California.

The shells are 5 to 9 mm high, brownish, dark gray, brownish red to pink, occasionally with a white or orange band and with rounded spiral cords around the body whorl. The columella is pearly white and the operculum thick and calcareous but flattened.

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TALK A FRIEND into joining the C.O.A. We will all benefit from a larger membership. Let's make a goal of over 1,000 members by the end of the year and 1,500 by the end of 1984!

## SHELLING AT PUERTO PENASCO Gulf of California

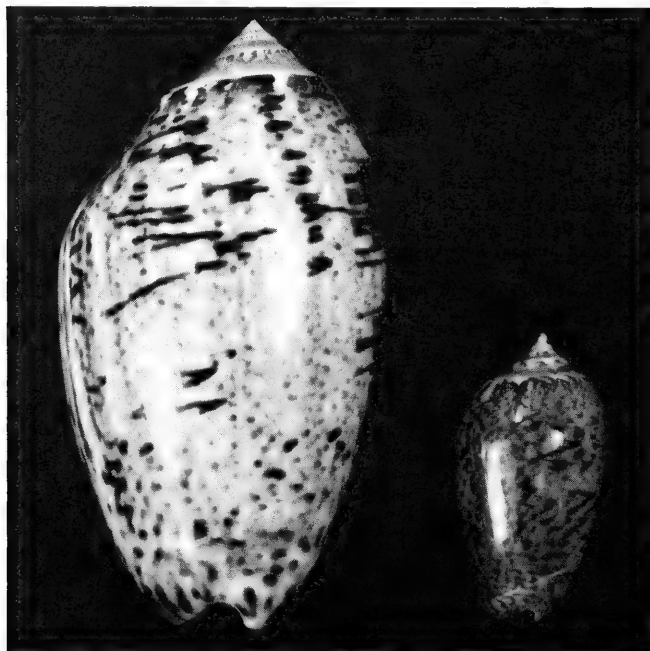
by MARI HUGHES

My vagabond shoes led me back to Mexico for shelling in a new area. I joined Anne Gardiner and son, Alan and friends in Tucson and drove to beautiful Puerto Peñasco, Sonora, on the Sea of Cortez. We shelled there at Rocky Point and Playa Encanto nearby. We collected on the early morning tides as well as night low tides and had very good luck. This was in June, before the tourist season, so we were quite alone. All shells were mature and exceptionally large.

We were happy to find large *Pinctada mazatlanica* (Hanley, 1854), heavy thick *Oliva incrassata* (Lightfoot, 1786), *Murex erythrostomus* (Swainson, 1831) and *Murex nigrinus* Philippi, 1845, large *Conus perplexus* Sowerby, 1837, many more shells of both bivalves and univalves.

Fellow C.O.A. members have asked about accommodations on the beach at Rocky Point. So for the others who may wish to go, there is a large trailer park and rental space at a camping ground right next to the rock.

Fig. 1. The long and short of it: *Oliva incrassata* Lightfoot, 1786, AbS 76-128 (left) orig. from Mrs. Sayers, coll. at Palos Secos Bay, Panama; and (right) a small but mature specimen (AbS 83-437) collected with SCUBA by Glass at Punta Chivato north of Mulege, Gulf of California, Baja California Sur, July, 1983, at night in sand in 20-30 ft. Both shells are shown at natural size.



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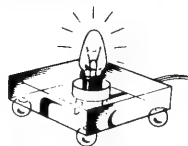
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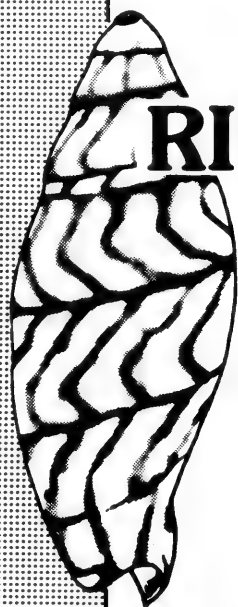
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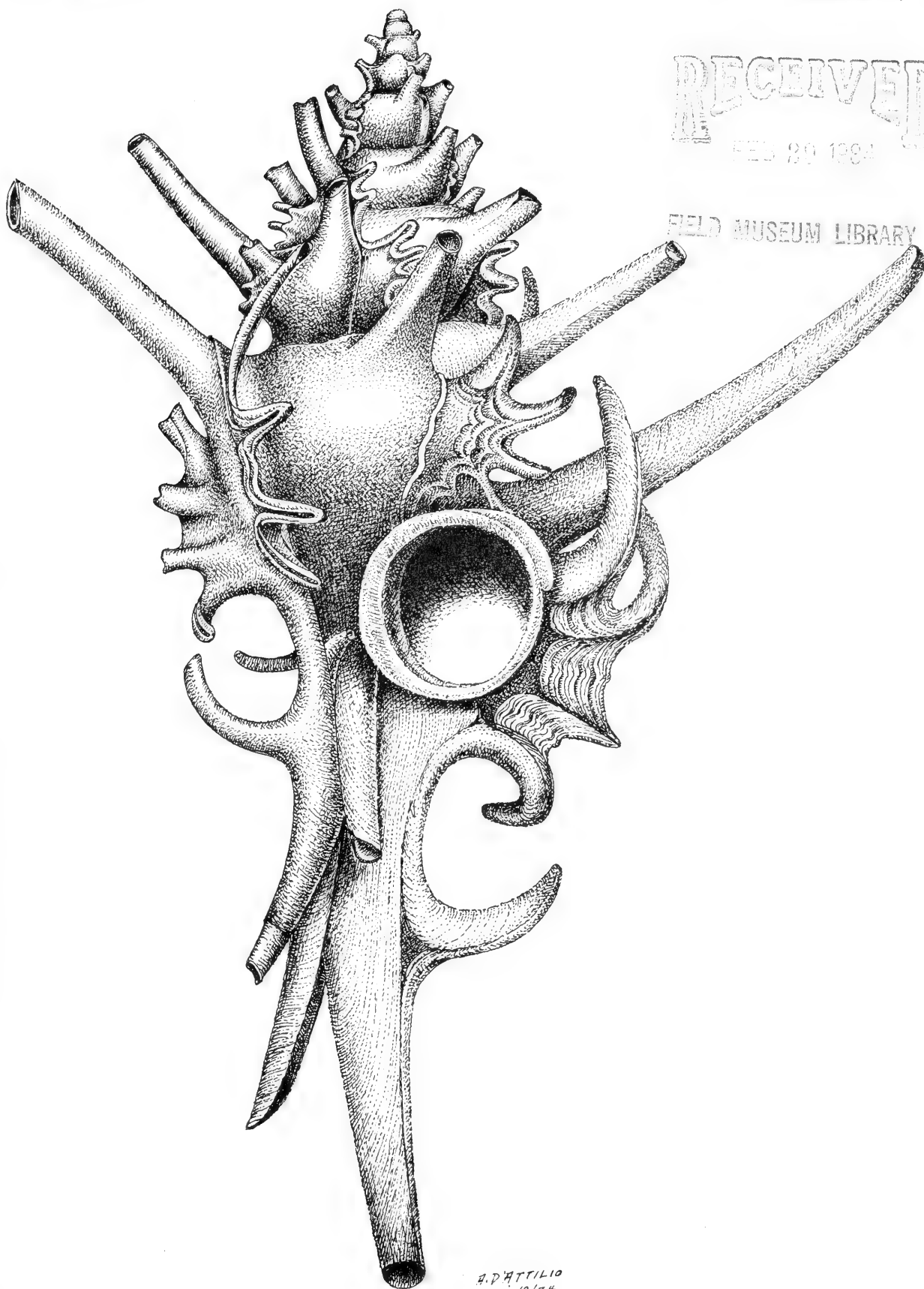
# CONCHOLOGISTS OF AMERICA BULLETIN

VOL. 11, NO. 4

DECEMBER, 1983

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In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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INDIVIDUAL (per year) \$7.50; FAMILY (receiving one Bulletin) \$10.00; OVERSEAS (Air Mail Postage) \$10.00; Send check or money order to the TREASURER (address above). \*\*\*Any other membership problems should be addressed to the MEMBERSHIP CHAIRPERSON, Phyllis Pipher, 1116 N Street, Tekamah, Nebraska, 86061.

COVER PLATE: A pen and ink rendering of *Monstrotypis tosaensis* (Azuma, 1960) by Anthony D'Attilio in the Foster & Glass Collection. Anyone visiting San Diego this holiday season may enjoy a one-man show, "The Art of Anthony D'Attilio" held from Nov. 18 through Jan. 8 at the Natural History Museum in Balboa Park.

## IMPORTANT NOTICE

It is time to pay your annual membership dues! Please send your check to: Clair Stahl, Treasurer, C.O.A., 3235 N.E. 61st Ave., Portland, Oregon 97213. Individual membership is \$7.50 per year; family membership (receiving 1 Bulletin) and overseas membership (air mail postage) are \$10.00 per year. Please send your remittance now, without further notice. We need and appreciate your continued support! . . . and how about a gift membership for a friend for Christmas?

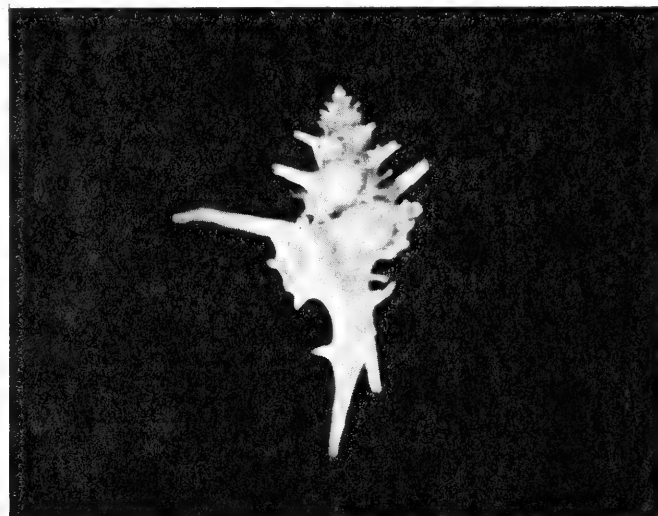


Fig. 1. *Monstrotypis tosaensis*, AbS 74-2082, 26.5 mm long, trawled in 200-300 m in the South China Sea.

## NOTES ON MUREX

by ANTHONY D'ATTILIO

San Diego Natural History Museum

### *Monstrotypis tosaensis* (Azuma, 1960)

This very striking and elegantly formed *Typhis* was originally described in 1960 simply as *Typhis tosaensis*. In 1961 Habe proposed the genus name *Monstrotypis* with *tosaensis* as type, remaining thus far a monotypic genus.

The choice of this generic name referring to monster, or adjectively monstrose, seems hardly appropriate for such a fine species. One other typhis has generated some similar emotional heat. The reference here is to *Choreotypis pavlova* Iredale. Choreography is a reference to the art of the dance, and *pavlova* refers to the famous ballet star of the early part of this century.

*M. tosaensis* seems to be a rare species restricted to Japan and Taiwan.

The subfamily Typhinae (Muricidae) consists of a comparatively small number of living and fossil species of worldwide distribution. Most are found in waters deep enough to make the shells rare and hard to come by. A species at Martinique, West Indies, and one in Baja California at San Felipe are two that have come to my attention which come into intertidal waters.

The last published list of Recent and fossil Typhinae was in 1944 by A. Myra Keen. Although no comprehensive list has been published since then, species from specific geographical areas have been adequately treated for the Caribbean, Pan-amic and Australian regions.

### FOSSIL IDENTIFICATION

Charlie Hertweck supplied the identifications to the Sarasota fossils pictured on pages 36 and 37 of the last issue. On page 36 the shell pictured in dorsal and aperture views at the top of the page is an apparently undescribed species of *Ecphora*; below the *Ecphora* (top to bottom): *Conus cherokus* Olsson & Petit; *Cancellaria propevenusta* Mansfield; and (two views, bottom of page) *Cypraea carolinensis* (Conrad). On page 37 (left to right) top row *Tripsycha* sp.; *Trigonostoma druidi* Olsson & Petit; *Vermicularia recta* Olsson & Harbison; middle row: *Sconsia hodgei* (Conrad); *Architectonica nobilis* Röding; *Bullata taylori* Olsson; bottom: *Vasum locklini* Olsson & Harbison; and an as yet undescribed species of *Hexaplex*.



## LIGHTS. . CAMERA. .ACTION!

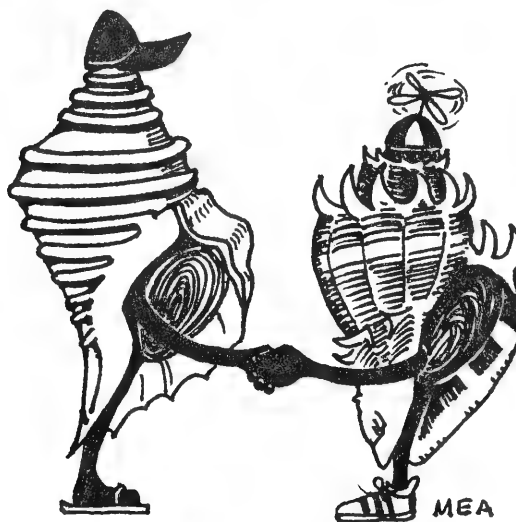
**Title:** '84 COA CONVENTION  
**Producer:** St. Petersburg Shell Club  
**On location:** Don CeSar Beach Resort -  
 St. Petersburg Beach, Florida  
**Production dates:** Wednesday through Saturday,  
 June 27-30, 1984

### Act I

As the curtain rises, there's a bustle of activity as St. Petersburg Shell Club members enthusiastically begin arranging for COA's 12th Annual Convention. Director, Don Young, twists the arm of Don CeSar and succeeds in obtaining special room rates for conventioners of \$53 per night, plus 7% tax, for single through quadruple occupancy. Management concedes only when convinced that shell fanciers are every bit as glamorous, notorious and fun-loving as Lauren Bacall, Carol Burnett and James Garner, who used the landmark Don CeSar as the movie set for "Health!"

The set: Wherever you room in the Don, your window will always pose a captivating view of the water. To the east, you will find piercing sunrises over sailboat-strewn Boca Ciega

*Neptunea decemcostata*, logo of the C.O.A., meets *Melongena corona*, logo of the St. Petersburg Shell Club.



Bay; to the west lie the magic sunsets of the Gulf of Mexico. The Don CeSar encompasses almost 300 guest rooms and suites. All are luxuriously appointed, some with balconies. Without question, the Don exudes romance around every corner!

The splendor of the Don is exceeded only by that which has been built by Mother Nature: the beach! You have never dug your toes into finer, whiter sand. Or soaked your body in calmer, warmer waters. There are, of course, the sun-soaking and social rituals of the pool area and adjacent jacuzzi. But the real fuss is raised beachside. Sailing. Deep sea fishing. Jet skiing. Scuba diving. Water skiing. Kayaking. And Parasailing. There are even boats available for shelling excursions to nearby islands.

Baffling as it may seem, this tropical respite is only minutes away from some of the world's most popular attractions. The Walt Disney World Magic Kingdom and the new Epcot Center are a mere two hour drive to the east. Busch Gardens and Tampa's Latin Quarter, Ybor City, is just a half hour across the bay. And the Greek Spöge Docks of Tarpon Springs are just up the road. It's all here.

### Act II

Casting Agent, Phil Schneider, beachcombs and adds to his collection of speakers the following prize specimens:

Robert J.L. Wagner - Senior Editor: *Wagner & Abbott's Standard Catalog of Shells*, *VanNostrand's Catalog of Shells*, and registrar of record-size shells - our banquet guest speaker

Kirk Anders - biologist/malacologist, travel-agent, shell-guide.

Other leading parts are still available; if interested, contact Phil Schneider, 118 Phillips Way, Palm Harbor, FL 33563, telephone (813) 785-4761, and send him information about your program and what, if any, projection equipment will be needed.

Advance production crew checks on-location camera angles for traditional COA events:

- \* A get-acquainted party will be held the first evening to enable you to make friends and renew old friendships!

- \* Field trips in pursuit of live Florida specimen shells will be on your "must do" list!

- \* Count on attending the fun and rewarding shell auction, with hundreds of shells put up for competitive bidding!

- \* Of course, by popular demand, there will be several dealers' bourses, supermarket of shell dealers from around the country, displaying their wares to tempt your "shells-resistance!" This will be an excellent opportunity to add unique and beautiful common and rare shells to your collection!

- \* And the Grand Finale Banquet will be a gastronomic delight, midst the camaraderie of fellow shell enthusiasts, and topped off with our special guest speaker!

### Act III

At last — the World Premier of "COA Convention XII — and *you* are there for the exclusive engagement, mingling with the stars and with other local shell fans. Audience participation encouraged! Happy endings and rave reviews guaranteed!

Advance tickets for this 4-star production (pre-registration forms) will appear in your March '84 COA Bulletin.

And, if *you* have ideas, suggestions or innovations you would like implemented in these festivities, feel free to share them with Don Young, Convention Chairman, 11975 - Third St. E., Treasure Island, FL 33706, telephone (813) 360-1297.



Fig. 1. Neil Hepler being presented with the 1983 C.O.A. award by Norris McEly at the 1983 Greater Miami Shell Show.

## C.O.A. GRAND TROPHY WINNERS

Greater Miami Shell Show, Virginia Key, Miami, Florida, Jan. 27 - 30, 1983

Winner Neil M. Hepler

Title of display: *The Conidae — Poison Lancers*

A comprehensive, 29 foot exhibit consisting of 10 cases showing a basic interpretation on the life cycle of the Conidae.

Neil started collecting shells some 25 years ago but his main interest is working up educational exhibits on the mollusca. He reports, he is very happy to add the 1983 C.O.A. Grand Trophy to the 21 major awards his working with shells has taken since 1961.



Fig. 2. Trophy-winning exhibit of Foster & Glass, Editors of the Bulletin, at the West Coast Shell Show. Photo John Flentz.

West Coast Shell Show, Santa Barbara, California, Oct. 22-23, 1983

Winners: Robert Foster & Charles Glass

Title of Display: *Cones of the World*

5 cases displaying over 450 cone shells on black velvet, the central case measured 5 ft. in length, total length 12 ft.



## SHELLS IN PRINT

by RICHARD L. GOLDBERG

A number of new species have been described in various journals over the last few months. Below are just a few of the more popular families:

In the Journal of the Malacological Society of Australia Vol. 6 (1-2), two new volutes are described — *Notovoluta gardneri* Darragh, 1983, with a type locality of northeast of Lady Musgrave Island, Capricorn Channel, central Queensland, in 200-220 meters of water. This is the first occurrence of a living species of *Notovoluta* in Queensland waters.

In the same issue, *Amoria necopinata* Darragh, 1983, is described. Similar in appearance of *A. undulata* Lamarck, it differs by its thinner and smaller shell, not as swollen at the shoulder, is more elongate, and has a much more slender and relatively produced spire. Its type locality is Capricorn Channel, central Queensland, in 134 meters of water. The animal and radula of this new species were unknown at time of publication.

*Galeodea maccamleyi* Ponder, 1983, is a new species of Cassidae described in the same issue as the two volutes. Its type locality is off Lady Musgrave Island, Capricorn Channel, Queensland, in 238 meters of water. It is most similar to *G. triganceae* Dell, 1953 from New Zealand, and *G. echinophorella* (Hirase) Habe, 1961 from Japan.

In Publicações Ocasionais da Sociedade Portuguesa de Malacologia two new species of *Conus* are described, and one name is revised, (No. 2, 1983, Lisboa). *Conus cernohorskyi*

Fig. 1. *Conus halli* daMotta, 1983: from Pasir Putih, about 180 kilometers east of Surabaya, Java, Indonesia. A color/pattern series — First row: (l to r) golden yellow to a bluish grey; Second row: a continuation of bluish grey coloring to an intermediate flammulated form (left specimens similar to *gilvus*). Third row: flammulated forms, with and without central band to a solid brown form with fine encircled lines (similar to *concolor*).

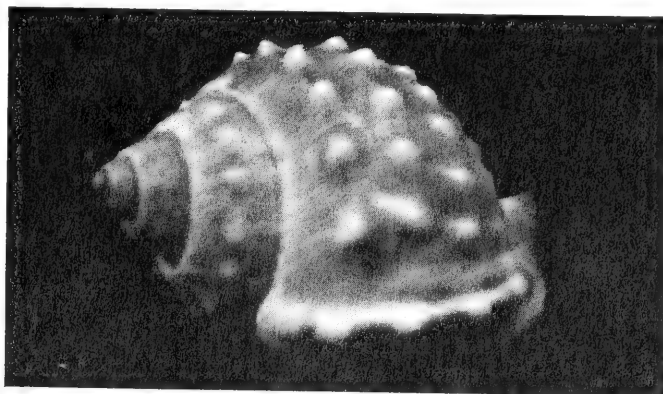
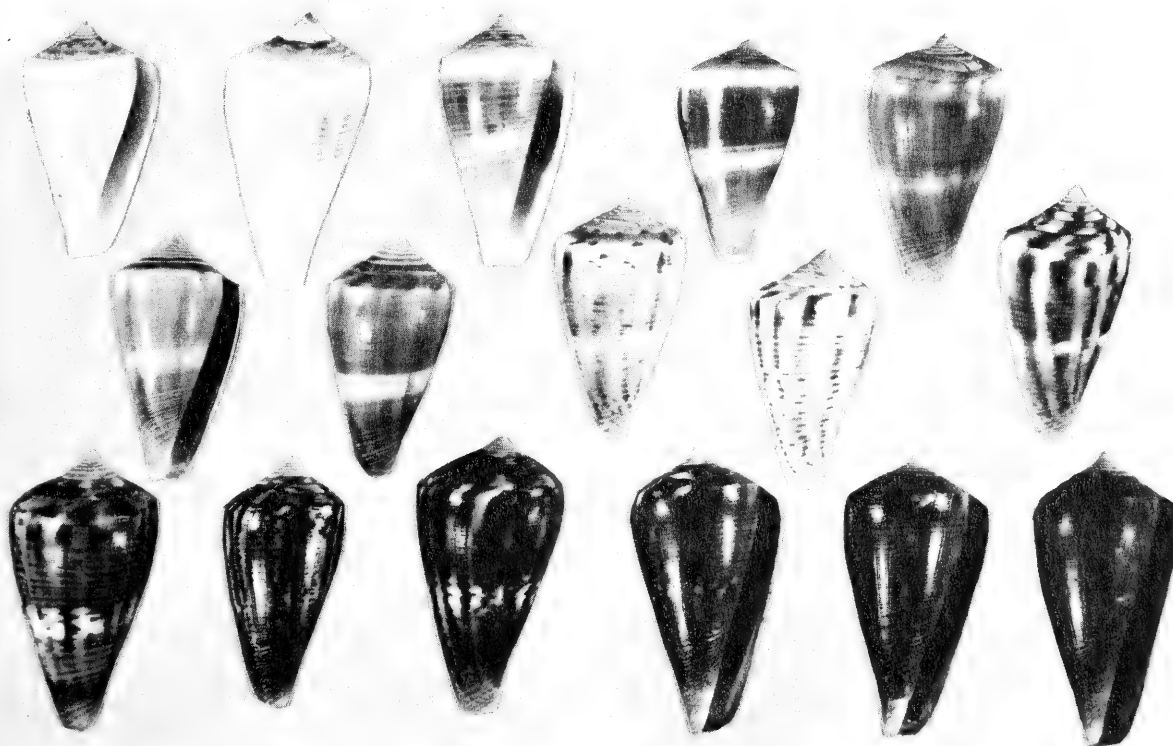


Fig. 2. *Galeodea maccamleyi* Ponder, AbS 83-497, trawled at 140 fm off Lady Musgrave Is., Queensland. Photo Foster & Glass.

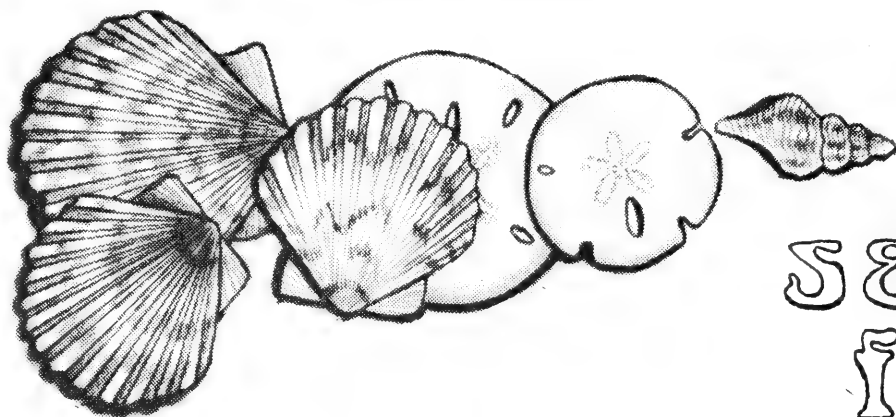
daMotta, was long regarded as another of the many forms of *C. magus*. The type locality is the vicinity of Borogon, Samar Oriental, Philippines. The shell has a stocky appearance, and is compared to *C. zeylanica* and *C. stercusmuscarum* in contour. Adult specimens reach an average size of 46 mm in length, but rarely attain 60 mm in length.

*Conus halli* daMotta, is from Pasir Putih, about 180 kilometers east of Surabaya, Java, Indonesia (type locality). This species is an extremely diverse cone (see picture), and six varieties (Variety A-F) have been designated to help differentiate the forms. Three of the forms are compared with *Conus hyaena* (Variety A), *C. concolor* (& Variety C), and *C. gilvus* (& Variety D), if each of these forms are examined individually. The holotype was selected because it exhibited a diversity in patterns found in many of the varieties.

*Rhizoconus nebulosus* Azuma, 1973, published in Venus, the Japanese Journal of Malacology, Vol. 32, No. 2, is a pre-occupied name, and the original author corrects this, and proposes *Rhizoconus kiicumulus*, nom. nov. Azuma, as a replacement name.







# sarasota, florida

## C.O.A. CONVENTION 1983

by PEGGY WILLIAMS

The Conchologists of America's annual convention in Sarasota has been hailed as an unqualified success. It was held on Sept. 21 to 24 in Sarasota, Florida, at the beach-front Lido Beach Holiday Inn. Over 175 people from all over the country — and a couple from Panama and Mexico — enjoyed the interesting programs on shells and shelling. There were programs on mollusk egg cases, shell formation, and small families of mollusks as well as several on shelling in such exotic areas as Australia and Sarasota.

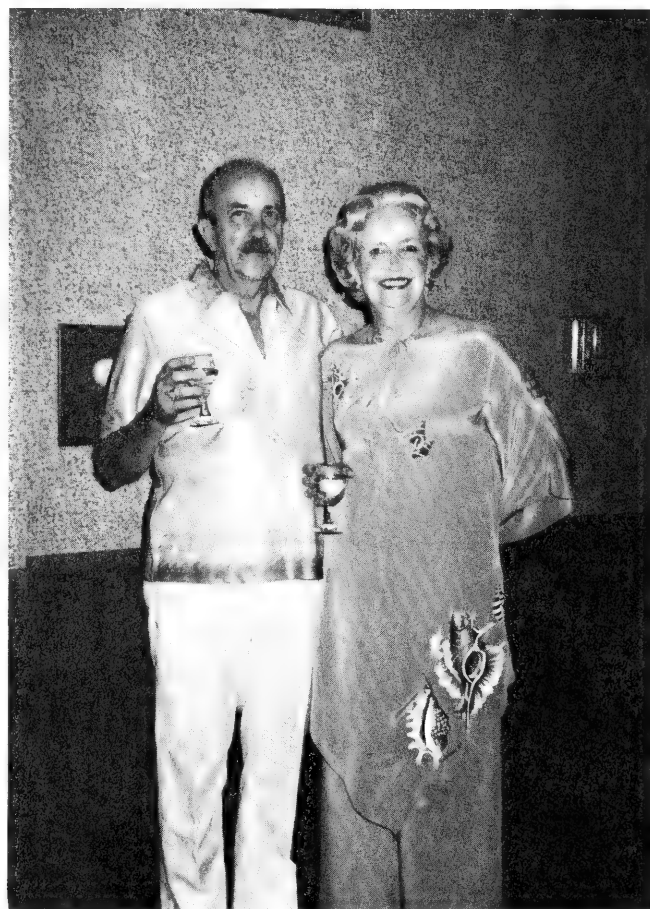
Wednesday evening a wine-and-cheese party was hosted by the Sarasota, Sanibel and Cleveland shell clubs at Mote Marine Science Center, a public aquarium where the Sarasota Shell Club meets and maintains a shell display. It was a delightful time of renewing old acquaintances and making new ones.

Thursday morning was a free time, and many took advantage of the low morning tide to go shelling nearby. Maps of easily-reached shelling areas were provided each registrant. Others shopped at the nearby St. Armand's Key, a group of interesting boutiques. After an afternoon of informative and Fig. 1 (below). View of the Lido Key beach from the Convention hotel, the Lido Beach Holiday Inn. Fig. 2. (right). Bernie & Phyl Pipher at the Sarasota Convention. Phyllis is Membership Chairperson of the C.O.A. NOTE: design at top is by Mathilde Duffy for the Convention Program.

entertaining programs and a short business meeting including election of officers<sup>o</sup>, the Dealers' Bourse got under way. Dealers had brought a great variety of items for sale; not only outstanding specimen shells were available, but also jewelry, books, shell stamps, and, a hit for the ladies, shell fabric. A fabric dealer from nearby Venice had been invited to the Bourse and brought over 20 bolts of materials. The crowd was so great that numbers were handed out and buyers were sent off to visit the other dealers until their numbers were called!

Friday saw a full day of programs and discussion — including a panel on What To Do With Your Shells When You Go — provoking interesting comments from the audience

- <sup>o</sup> President: Richard Forbush
- Vice President: Bonnie Christofel
- Treasurer: Clair Stahl
- Secretary: Margaret ("Peggy") Williams





as well. After dinner the auction of many and varied items was conducted by Dick Jones, 1982-83 president. Over \$2,000 was raised for the various C.O.A. projects by this auction.

High winds on Saturday morning forced cancellation of the dive trip, but some of the divers were able to join the shallow-water or fossil shelling trips. The wind blew the tide out farther than usual, so those who boarded the *Carefree Learner* (built by Sarasota High School students and teachers for instruction in marine biology) for a trip into Sarasota Bay found well-exposed grass flats and oyster bars and lots of shells. The other field trip, to the shell pit belonging to a friendly paving company, was a huge success as well. We wonder if any jets had trouble taking off with their load of fossils!

Saturday afternoon was a continuation of the Dealers' Bourse, capped on Saturday evening by a delicious and well-served banquet and a fascinating discourse by Bill Lyons of the Florida Department of Natural Resources on the status of *Mitra helenae*. Bill had only recently been blessed with the first live-caught specimen to study and has determined that it is, indeed, a miter and not a volute.

Dick Forbush, chairman, and the Sarasota Shell Clubs committee have been congratulated on all fronts for one of the best conventions ever put on by the C.O.A. The hotel, too, came in for much praise for the staff's courtesy, excellent service, and cooperation in all areas. We hope next summer's meeting in St. Petersburg will be as successful.



Fig. 3 (top, left). From left: Rhoda & John Webb, Charlie Hertweck (Convention Program Chairman) and Dick Jones (C.O.A. outgoing President) in the "Gulf-to-Bay Room" where programs and events were held. Fig. 4 (left, center). Bea Winner speaking on "Marine Gastropoda Egg Masses". Fig. 5 (below, left). Cecilia Abbott, Kirk Anders (1st President of the C.O.A.) and R. Tucker Abbott (Chairman of the C.O.A. Publications Committee) during one of the coffee breaks. Fig. 6 (below). Tucker and Cecilia celebrate the end of the Convention by taking your editor on a wild ride down the Congo River Rapids at Busch Gardens. (Figs. 1-5 by Vi and Charlie Hertweck; fig. 6: photo C. Glass.)



## SHELLING IN AND AROUND ST. PETERSBURG, FLORIDA

by JANE COLBURN

We would like to invite you to the Sun Coast for the 1984 C.O.A. convention (see announcement on page 51).

If shelling is on your agenda don't forget your collecting equipment!

Shelling in Florida, especially in the St. Petersburg area, can be fun and rewarding. The lowest tides are in the early morning in the winter and evening in the summer.

On the sand bars, exposed at low tide, there are *Oliva sayana* (Lettered Olive), *Olivella floralia* (Common Rice Olive), *Polinices duplicatus* (Shark Eye), *Sinum perspectrum* (Common Marginella), *Conus jaspideus* (Jasper Cone), *Terebra dislocata* (Common American Auger) and *Macrocyclista nimbosa* (Sunray Venus).

In shallow water on grassy flats there are *Pleuroploca gigantea*, our Florida State Shell (Horse Conch), *Busycon contrarium* (Lightning Whelk), *Busycon spiratum pyruloides* (Say's Pear Whelk), *Trachycardium egmontianum* (Prickly Cockle), *Dinocardium robustum vanhyni* (Vanhyning's Cockle), *Mercenaria campechiensis* (Southern Quahog), *Mercenaria mercenaria* (Northern Quahog), *Fasciolaria tulipa* (True Tulip), *Fasciolaria lilium hunteria* (Banded Tulip), *Murex pomum* (Apple Murex), and *Murex florifer dilectus* (Lace Murex).

On muddy bottoms and shallow bays we have *Modulus modulus* (Atlantic Modulus), *Crepidula fornicata* (Slipper Shell), *Cerithium muscarum* (Fly-specked Cerith), *Nassarius vibex* (Common Eastern Nassa), *Carditamera floridana* (Broad Ribbed Cardita), and *Melongena corona* (King's Crown).

The very common coquina, *Donax variabilis*, is especially fun to find for the first time, because they are found at the tide line of the surf, and you can watch them come in with each wave and bury quickly into the sand. They are a very small, colorful bivalve.

One of the nicest shells to find in our area is *Cyrtopleura costata*, otherwise known as the Angel Wing! They like to burrow down in soft sandy mud, about 20 inches, and can move up and down in their burrows at will. Shells in some colonies may have pink, concentric stains due to environmental conditions. It is easy to find, by the hole it leaves, but a little harder to dig up, especially in the winter!

These are but a few of the many species that live in these waters. Many are exposed at low tide on the flats. Some are

buried in the sand and you have to look for their trail, others leave just a slit or hole in the sand! There are many young and micro shells living on the grasses. If you find a rubble area with some dead shells you will likely find live shells in and under these dead shells.



Fig. 1 (left). *Pleuroploca gigantea* (Kiener, 1840), AbS 79-462, 135 mm long, and (fig. 2, right) the "knobless wonder" form of the same species, AbS 79-400, 225 mm long, both collected by Foster & Glass at Sanibel Island, Fla., 1979. This species is the Florida State Shell and but one of many you will encounter during the 1984 Convention in St. Petersburg!



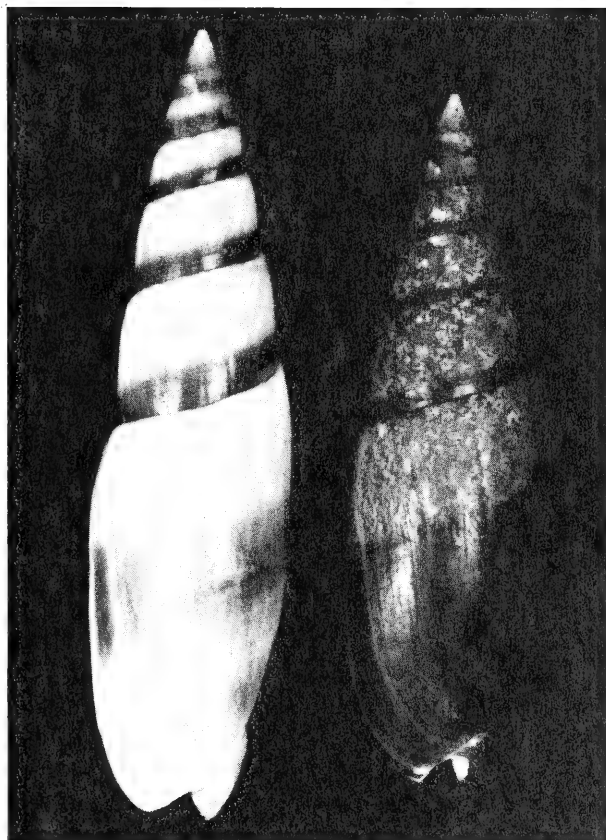
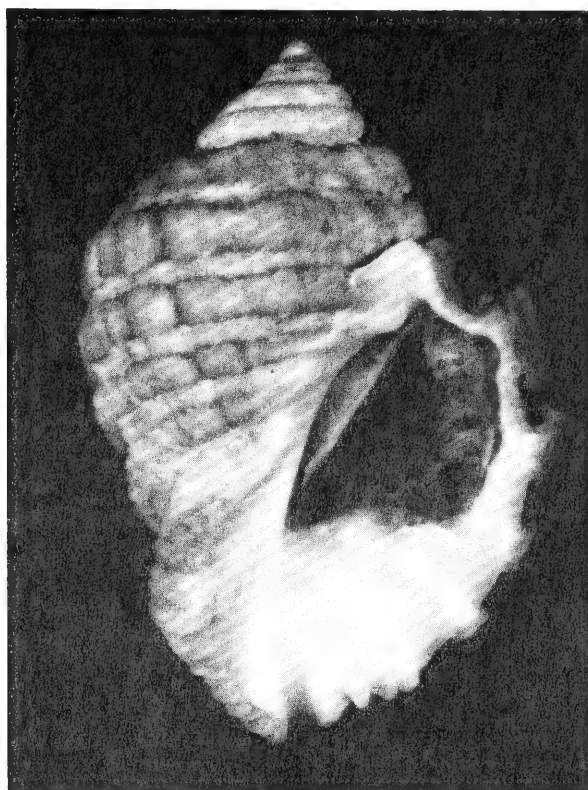
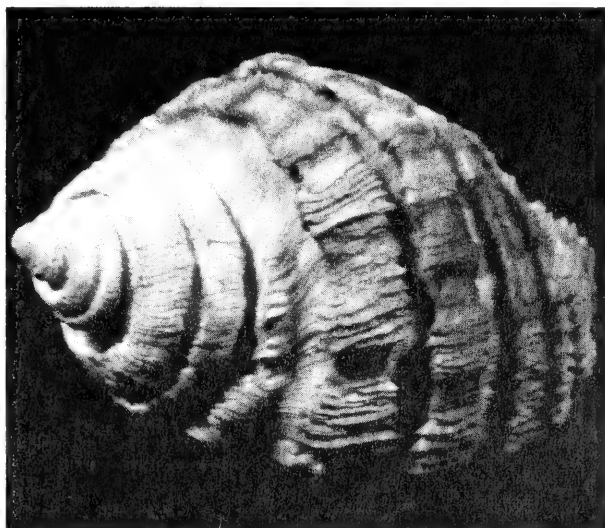
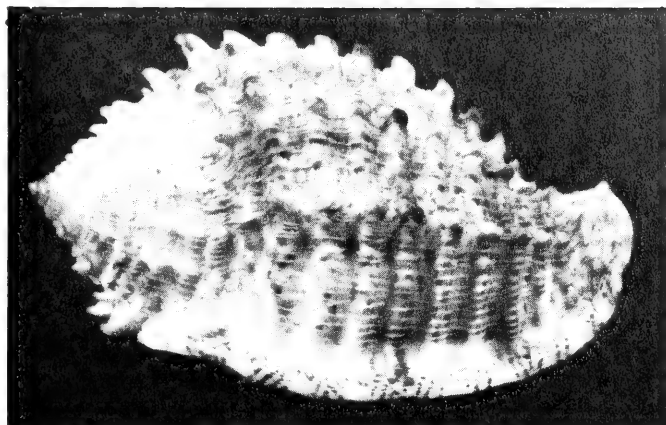
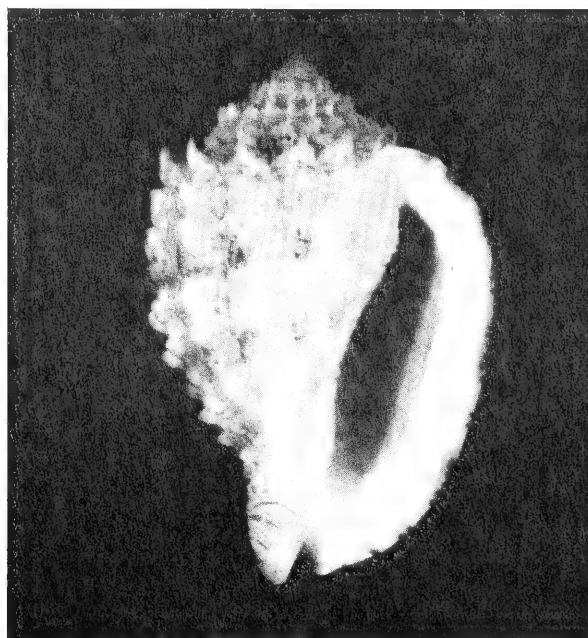


Fig. 1 (top, left). *Acanthina* (*Neorapana*) *grandis* Sowerby, 1835, a 67.5 mm shell, AbS 80-1173, taken at low tide from surf-beaten rocks, Barrington Island, Galapagos Islands. Fig. 2 (above). Aperture view of same shell. Fig. 3 (left center). *Mitra fusiformis* ssp. *zonata* Marryat, 1818, two specimens from Malaga, Spain, dredged at 30-40 m: the left shell, AbS 83-263, 74.5 mm long, with periostracum removed; the right shell, AbS 83-264, 65.5 mm, with periostracum.

## SHELLS FOR THE AMATEUR

by R. FOSTER & C. GLASS



Figs. 4 & 5. Side and aperture views of what we determined to be *Morum teremachi* Kuroda & Habe AbS 83-197, taken in 100m by gill nets off Balut Island, Philippines in March of this year (38 mm long).



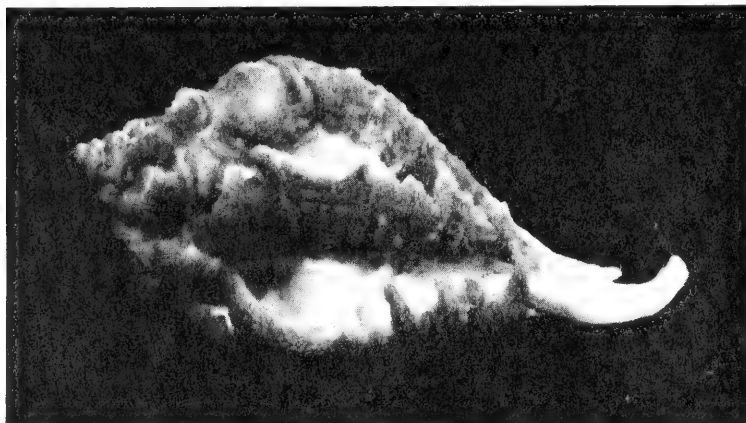


Fig. 1. *Maxwellia santarosana* (Dall, 1905), AbS 82-396, 36.5 mm long, leg. Glass & Gerdan in 20-40 ft. on rocks west of Prisoners' Harbor, at Cruz Is. Fig. 2 (right). *M. gemma* (Sowerby, 1879), AbS 81-702, 32.5 mm long, leg. Glass & Gerdan in 15-30 ft. on rocks off San Pedro Pt., Santa Cruz Is. Fig. 3 (below). Aperture view of same shell.

## CALIFORNIA SEASHELLS PART VI: MAXWELLIA (MURICIDAE)

by CHARLES GLASS & ROBERT FOSTER

The genus *Maxwellia* was proposed by Baily in 1950 for the California species, *Murex gemma* Sowerby, 1879. Another California species, *Murex santarosanus* Dall, 1905, was transferred to *Maxwellia*, and a third, this one from Galapagos Islands off Ecuador, *Aspella angermeyerae* Emerson & D'Attilio, 1965, is the only other species to have been included in this small genus to date. *Maxwellia* is characterized by the varices which are strongly reflected dorsally and by sunken inter-varical spaces on the shoulder.

*Maxwellia gemma* (Sowerby, 1879) has a short, fat, white shell with five heavy varices. There is typically a broad, dark brown to black band that transverses the shell at or near the shoulder and several, narrow, slightly raised, transverse lines of the same color. Maximum length of *M. gemma* is given as 40 mm and its range as extending from Santa Barbara to Asuncion Island, Baja California. Its habitat is usually in rather shallow water, most commonly in about 30 feet on rocks. We have found it at most localities along the coast near Santa Barbara, around all of the Channel Islands, including San Miguel, and on offshore reefs in 65 to 90 ft. The best specimens we have seen were from Palos Verdes, the Los Angeles Harbor (in 30 ft.) and off Avalon Harbor on Catalina Island. In May, at Avalon (and later, in June off southeastern Santa Cruz Island), we found egg-laying congregations of the species and among these 20 to 30 specimens all grouped together on the sides of rocks was an unusually high percentage of very clean, unencrusted gem specimens. Most specimens found on the reefs are heavily encrusted and it is our speculation that during the congregational egg-laying period, mollusks come from nearby but different habitats and these are the ones that are in such excellent condition.

*Murex santarosana* (Dall, 1905) was first described as *Murex fimbriatus* by A. Adams in 1854, but that name was preoccupied by *Murex fimbriatus* Brocchi, 1814. For that matter, "fimbriatus" was a popular epithet for *Murex*! Lamarck in 1822, De France in 1827 and Michelotti in 1841 had all used that same name. Until recently the species had been grouped with *Murexiella*; one does wish that, when transfer of

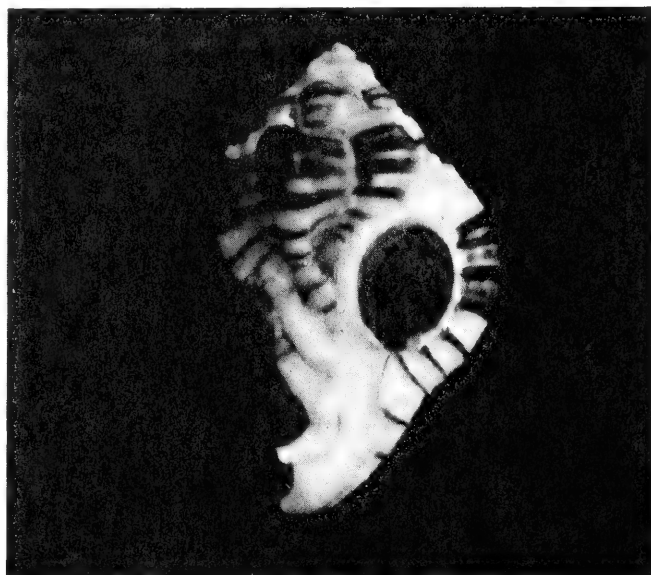
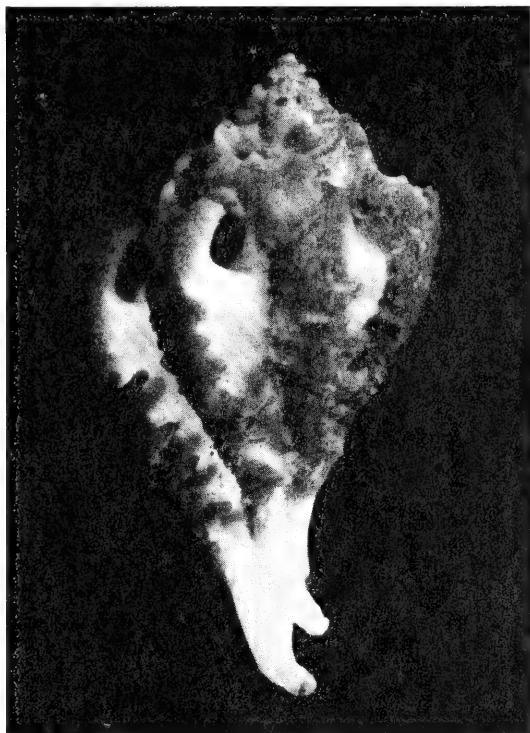


Fig. 4. *M. gemma*, AbS 82-1463, the best specimen we have ever seen of this species, a dark form, 38 mm long, from 30 ft., on rocks, L.A. Harbor breakwater (leg. Glass).



Figs. 5 & 6. Top and aperture views of specimen in fig. 1. Figs. 7, 8 & 9. Top, aperture and side views of a specimen of *Maxwellia angermeyerae* (Emerson & D'Attilio, 1965), Los Angeles County Museum of Natural History specimen #11212, 22.8 mm long, taken in 25 fm on rubble bottom in Academy Bay, Santa Cruz Island, Galapagos Islands. We are including this species because of its interesting affinities to the California species, *M. gemma*.

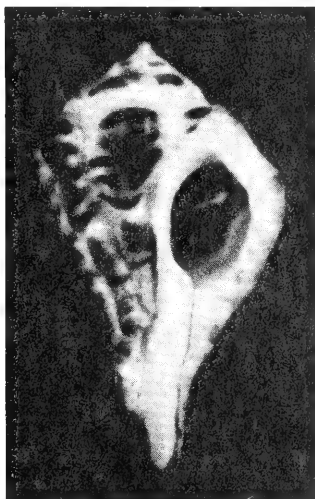
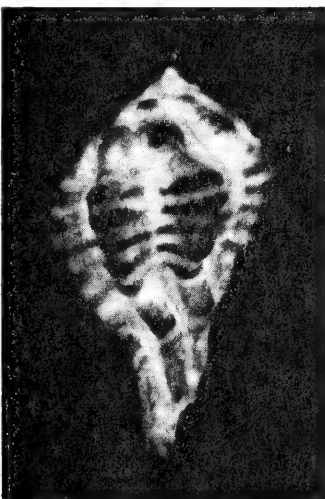
a species is proposed from one genus or subgenus to another, the reasons for the transfer would also be given more often than is commonly done.

A fine or gem shell of *M. santarosana* is a very attractive item, but unfortunately most shells of this species are badly worn and/or so heavily encrusted that the fine, intricate, orange-brown varical sculpture is virtually obliterated on all but the last and newest whorl. This sculpturing, the finely fimbriate edge of the varix and the dorsally reflected varix give the impression of a cresting wave in the act of breaking, the wings of one varix rolling over and just barely touching the next. The basic shell color is ivory white. There are typically 6 varices and the spire is relatively higher and the siphonal canal longer than in *M. gemma*, giving the shell a less stubby, more graceful though similar shape.

The range of *M. santarosana* is given as extending from Point Estero, just north of Morro Bay, California, to San Bartolome Bay, Baja California. Maximum length is given as 42 mm. We have found this species virtually throughout the waters of southern California and its islands in depths of from about 20 to over a hundred ft., on breakwaters, rocks and reefs. Apparently mollusks which live on rocks or reefs bearing heavy encrustations become encrusted with the same organism. The best shells of this species we have found were on rocks covered with only a short, thin, greenish brown, hair-like algae (providing, also, a good disguise for the greenish brown algae-covered shells) as, for instance, near Prisoner's Harbor and Twin Harbors on the front side of Santa Cruz Island. But although, as we noted, *M. santarosana* is a very common muricid in southern California waters, such fine specimens are rare indeed!

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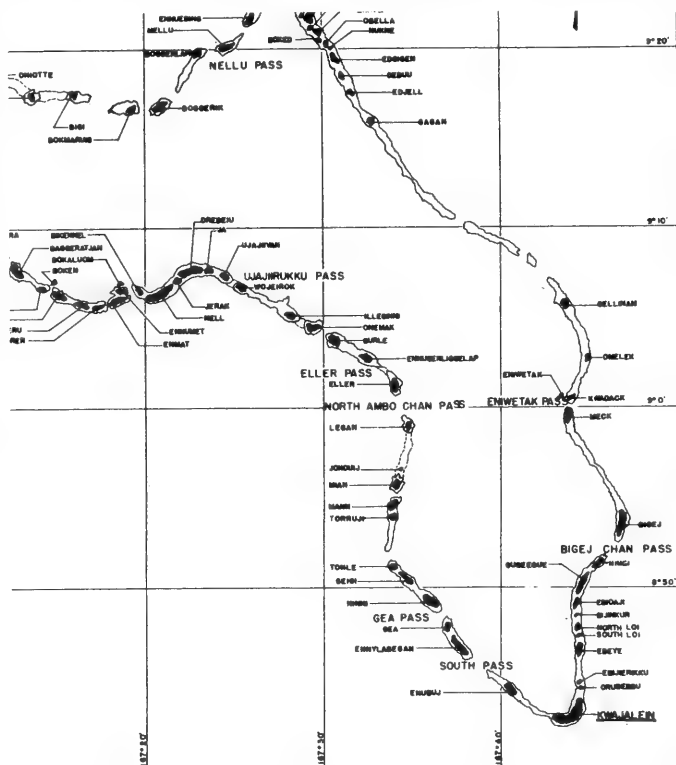


Fig. 1. Map of Kwajalein Island and neighboring fringing reef. The surge channels we visited most are between Carlson (Enubuj) Island and South Pass, west of Kwajalein.

## KWAJALEIN'S SURGE CHANNELS

by JEANETTE HAMMON

Amidst the rich variety of marine life on the outer edge of Kwajalein's other reef, the surge channels, in spite of their sometimes barren appearance, are home to some of the atoll's rarest molluscan species.

At Kwajalein Atoll in the Marshall Islands, these underwater "grooves" or "little canyons" come in a variety of sizes. Shorter channels seem to predominate the windward (east) side of the atoll with the channels abruptly ending at the outer reef margin where huge frothy white breakers are seemingly swallowed up at the edge of the reef. These are nearly always un-diveable.

The leeward (west) reef surge channels begin deeper off the reefs' margin, sloping from 10-15' underwater to a depth of 60' at the drop-off. The sides are usually steep and the bottoms are a mix of sand and rock. It is generally believed that these channels are formed when heavy storm related surf causes the sand and rock to literally scour the bottom of the channel, thus deepening it. Each channel is unique with ledges and pockets holding piles of rubble washed down from the reef flat above. Some channels possess caves, small overhangs or even arches but all are honeycombed with small holes, crevices and tiny tunnels leading deep within the channel walls.

At first glance a surge channel looks devoid of shell life. Daytime dives often produce only dead shells and common ceriths, terebras and miters from the sandy channel bottoms. And so for many years Kwajalein SCUBA divers took little interest in the surge channels. It was several years after serious night diving had begun, in 1973, before this rich new shell habitat was discovered.

At night the barrenness of the day gives way to the activity of thousands of nocturnal animals which have emerged from hidden areas within the walls and are now in sight (and hopefully reach) of the night diver equipped with an underwater light.

Peering into a small hole is something like looking into a sugar egg at Easter. The diver's light may expose a fairyland of delicate pink and peach colored stylaster corals, feathery hydroids, colorful tunicates and sponges, bouquets of tiny sea anemones, starfish, outrageously patterned nudibranchs, crustaceans and, of course, gastropods!

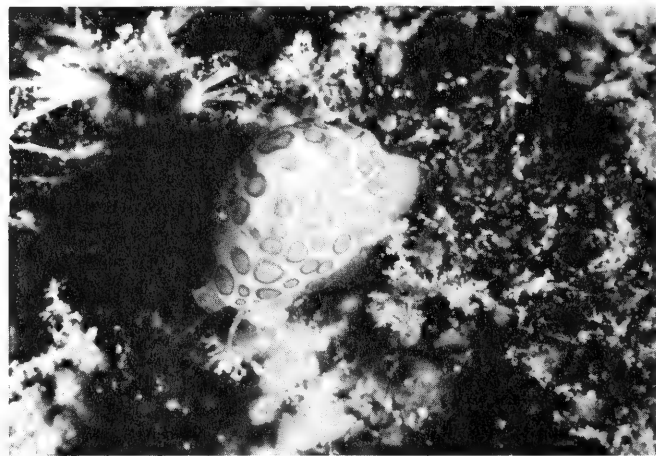


Fig. 2. *Cypraea mariae* Schilder, 1927 in habitat. Photo by Jim Wedge.

*Cypraea mariae*, almost never found live during the day, might be discovered moving along the top of a small hole and well camouflaged on the barren walls of certain types of caves; *Cypraea childreni*, looking much like the "button" scolaro sponge it is often near, can be spotted with a trained eye and collected with a quick hand as they move quite rapidly when exposed to the beam of an underwater light and seem to know the shortest and quickest route to an out of reach spot! Other *Cypraea* found at night are: *argus*, *aurantium*, *beckii*, *bistrinotata*, *cribraria*, *fimbriata*, *helvola*, *isabella*, *mappa*, *margarita*, *microdon*, *nucleus*, *poraria*, *punctata*, *scurra*, *stolida*, *teres*, *testudinaria*, and *tigris*.

Cones, some of which are surely out hunting a fresh cowrie dinner, include: *auricomus*, *cylindraceus*, *geographus*, *glans*, *legatus*, *nussatella*, *obscurus*, *pertusus*, and *tenuistriatus*. I have passed over a number of small (40 mm) *Conus geographus* as picking up a potentially hungry and hunting cone of it's reputation is a risk I'd rather not take.

Miters seldom if ever found live during the day have crawled out from well protected areas and can be collected with a little luck. Some I have collected are: *Mitra nivea*, *ustulata*, *petrosa*, *Nebularia fulvescens*, *Pusia catenatum*, *microzonias*, *turben*, *Thala mirifica*, *Vexillum crocatum*, *speciosum* and *unifascialis* to name a few.

Some of my most exciting finds have been in surge channels and at the top of my list was a totally unexpected *Marchia laqueata*. Another memorable evening my diving partner, D.J. Mac Donald, screaming and dancing in ecstasy, shared with me the thrill of seeing his just discovered *Cypraea dillwini*, the second live-taken specimen recorded at Kwajalein and a shell that he had been looking for for nearly 10 years!





Fig. 3. *Cypraea childreni* Gray, 1825 in habitat. Photo by Jim Wedge.

Night diving in surge channels, however, has its share of frustrations and dangers. Reaching as far into a cave as you can and seeing a perfect specimen an inch from your finger tips only to watch it crawl even further out of reach is almost as frustrating as picking a small cowry from a cave wall only to have it "slime" and slip from your fingers into the inaccessible rubble below. "Sliming" is a word used to describe a defensive maneuver cowries employ to escape predation. When endangered, they can emit a "mucous cloud" which in my aquarium observations has confused a hunting cone and allowed the cowry to escape.

The surge of these aptly named channels can be not only frustrating but dangerous. Many nights no surge is experienced at all while other seemingly calm evenings with an ocean swell running can make it next to impossible to hold on without being swept from one side to another. With your head in a cave, light in one hand and reaching for a shell with the other, a strong surge can literally throw you into sharp coral, urchins and stinging hydroids. Some divers experience nausea and vertigo even on slightly surgy nights. Sleeping parrot fish present a danger as these large (up to 3') fish are often in the same cave as the gem *Cypraea mariae* you just discovered and the fish are light sleepers. One bump can send them shooting out of a cave with great force and although I've only had them hit my leg a few times, which remained bruised for several days, it would be a serious matter if one of these potential missiles would hit a diver's head or knock a mask off.

Another danger are eels. These creatures are fond of the caves and holes and although the larger morays are startling to come face to face with, the small eels that stay hidden are the real danger. When collecting a shell from a small hole, I always remove my glove for better dexterity. On two occasions without warning, an eel has mistaken my finger for a fish dinner and although they quickly realize their error and let go, their razor sharp teeth left a wound that bled profusely.

Calm, dark nights are best for shell collecting but for some reason not every surge channel is productive. Having happened upon a "deserted" channel, a quick swim to the next one over may seem as if the entire molluscan community is "out on the town".

All in all, the rewards greatly outweigh the difficulties of surge channel diving and have most certainly become my favorite and most productive type of night diving.

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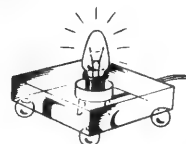
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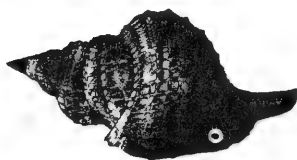
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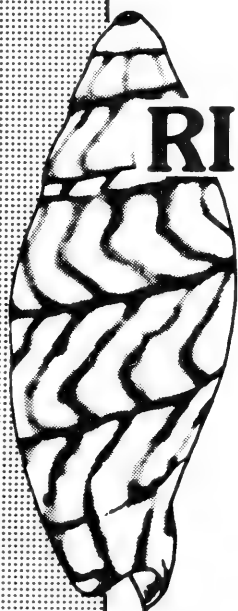
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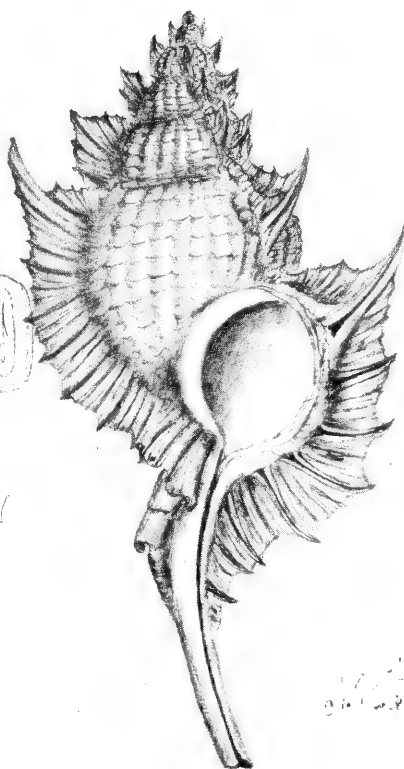
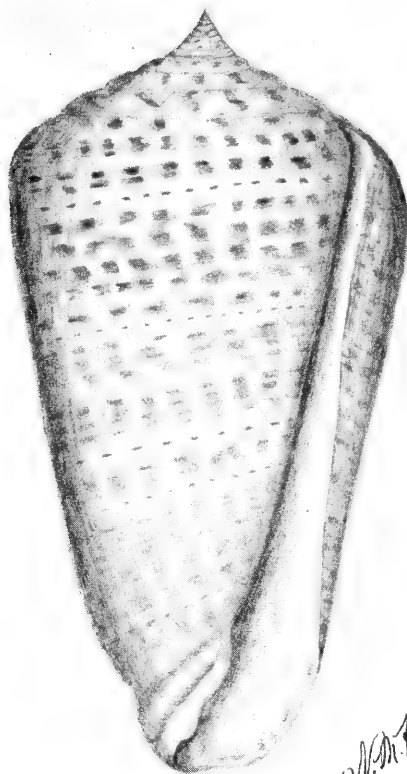
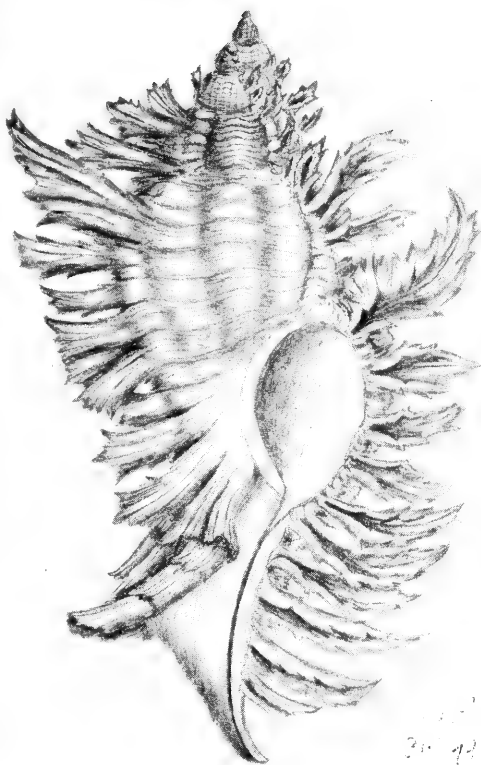
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# CONCHOLOGISTS OF AMERICA BULLETIN

VOL. 12, NO. 1

MARCH, 1984



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In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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#### COVER PLATE:

The C.O.A. mourns the loss of our member, Neil Hepler who passed away on November 25, 1983. As reported in the Broward Shell Club bulletin, "In shell show after shell show Neil proved that he was an unbeatable exhibitor. His educational entries, that he researched with indefatigable zest, were always outstanding. In so many ways Neil's exhibits were gem-like... his material impeccably accurate in their scientific content, his organization flowing and artistic, and his art second to none". Speaking of his art, he was desirous of having some examples of his art work on the cover of a C.O.A. Bulletin. So now, in his honor and remembrance, we are publishing copies of 4 of his sketches: *Conus spurius atlanticus*, *Murex florifer dilectus*, *Murex beaulti* and *Strombus gallus*. As noted in the above mentioned "In Remembrance", many of his prize-winning exhibits are on permanent display in various major museums.

#### MEMBERS' CORNER

ILLUSTRATIONS OF THE TYPES NAMED BY S. STILLMAN BERRY IN HIS "LEAFLETS IN MALACOLOGY" by Carole M. Hertz, a supplement to Volume XV of *The Festivus*, is available for \$5.00 each (while the supply lasts) plus \$.88 postage from the San Diego Shell Club, Inc., c/o 3883 Mt. Blackburn Ave., San Diego, CA 92111. This is an invaluable, 42 page paper containing illustrations of the types of all the molluscan species (92 large black and white prints), except *Octopus*, named by Dr. Berry, in "Leaflets", plus pertinent information about each illustrated species. An excellent addition to the shell library!

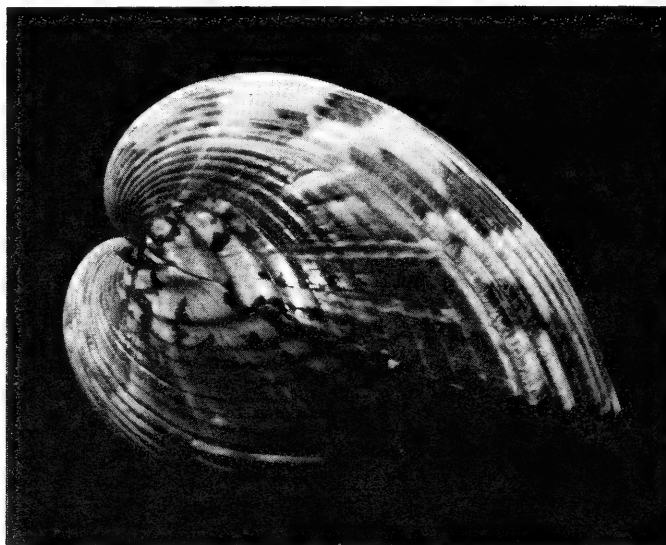


Fig. 1. *Dinocardium robustum vanhyningi* Clench & Smith, western Florida, 60mm long. Photos by The Abbey, Specimen Shells.

## SHELLING IN AND AROUND ST. PETERSBURG, FLORIDA, PART II

by JANE COLBURN

We hope you are already planning to attend the 1984 C.O.A. Convention in June. One of the good reasons is that the West Coast of Florida, especially the St. Petersburg area, is a shellers' paradise for collecting live specimen shells in very shallow water. The waters under the Sunshine Skyway Bridge that connect Bradenton, Fort DeSoto Park and the nearby bays and inlets are rich with a wide variety of shells. They are easiest to collect when the tide is lowest or while wading knee deep or less. A good low tide with some offshore sandbars out of water is expected for our planned shallow water field trip at this year's convention.

Clothing plays an important part in your shelling expedition. You want to be comfortably dressed, but remember the summer's sun can be harmful to someone who has not been exposed to it recently. In the summer the good low tides are in the evening, so you don't have to worry about the sun then. Sneakers are a necessity for walking the flats, where there are broken shells with sharp edges just under the surface of the sand and mud.

Collecting equipment does not have to be elaborate. A plastic mesh bag or bucket, a garden trowel and a few small plastic vials for holding the tiny shells are sufficient. A toothbrush is sometimes handy for semi-cleaning the shells' surface to see if you really want to keep them. A clear plastic sweater box makes a nice viewing box when the water is a little rough.

When you arrive on the flats, there are several things to look for. Many shells leave trails and stay buried until you find them. Other shells are in plain sight, looking for food or under rocks and inside dead shells.

A trail in the sand with a smooth indentation that looks like it had been scraped with the edge of a coin may be the "lettered olive", *Oliva sayana*, or the "sharks' eye", *Polinices duplicatus*. At times, either shell may be found where there are several cracks in the sand and they have just begun to crawl. The "sharks' eye", in its search for clams, can lose a sheller by its long, twisting trail.

Intermittent little squirts of water coming-up usually means clams are there. They may be the large "quahog", either *Mercenaria mercenaria* or *Mercenaria campechiensis*, or the "Atlantic surf clam", *Spisula solidissima similis*, found either in a sandy area

or a grassy, muddy area. The surf clams and beautiful tellinas usually let one know they are there by a short slit in the sand; and the "sunray Venus," *Macrocallista nimbosa*, lets one know by their key-hole in the sand. When digging for sunrays, dig rapidly: they will try to escape by quickly moving away to one side or the other. As the tide returns, some of the surf clams and small sunrays will often rise to the surface.

A rise in the sand or muddy sand that looks as though a trapdoor is being pushed-up is most likely a cockle, (family Cardiidae) trying to get back to the water. Because the cockles' siphon is short, they live just below the surface of the substrate and are therefore often exposed by shifting sands. The giant Atlantic cockle, *Dinocardium robustum*, Vanhyning's cockle, *Dinocardium robustum vanhyningi*, and the prickly cockle, *Trachycardium egmontianum*, are common to the area.

"Angel wings," *Cyrtopleura costata*, are common in deep, soft, sandy mud. They live as deep as two feet and can move their siphon up and down in their burrows at will. The slick, tapered top of the siphon, about as large as a dime, slightly protrudes from the burrow and is the only visible part of the animal. The siphon, when in doubt, can be felt and will retract deeper in the burrow when touched. There are different kinds of other sea creatures who make similar holes, but the angel wings burrow is always vertical and never at an angle. They are delicately fragile and easily broken during and after the digging process. To avoid breaking the shell, keep a finger in the siphonal hole to use as a reference point while digging in a half circle along the side of the shell. When the finger can touch the shell, slowly use your fingers to remove the ground next to the shell. Gently pull on the lower part of the shell to release the suction, and the shell is yours. The shell is covered with mud but can be cleaned a little by swishing in the water, then carefully use a toothbrush to remove the mud. Wrap the shell in newspaper or a wet cloth to protect it until you can remove the soft parts. The easiest way to remove the animal is to slowly cook the shell.

Atlanta augers, *Terebra dislocata*, are common on sand beaches and sand flats. Their trail is a narrow line or knife like cut in the sand that is easily recognized.

Some shells do not travel underground. When a sandbar is covered with several inches of water, the "banded tulips," *Fasciolaria lilium hunteria*; "pear whelks," *Busycon spiratum pyruloides*; and "lightning whelks," *Busycon contrarium*, may be visible. If the sandbar is exposed, these species will probably be submerged leaving only the very tip of their siphonal canal showing. As the tide returns, some of these shells will surface before the

water reaches them. The true "tulips," *Fasciolaria tulipa*, seem to live both in the muddy sand and muddy grass areas; however, they are most often found in the latter. If you step on something firm in the soft muddy grass, check it. It may be a true tulip or another shell in or out of its regular habitat.

The Florida fighting conchs, *Strombus alatus*, are likely to be found hiding where the sea grass is partially covered by sand.

The "king's crowns," *Melongena corona*, live in colonies in the muddy intertidal areas. In or out of the water, they are apt to be seen traveling, partially submerged or submerged with only the tip of their siphonal canal showing. In the dark of the night, the colonies are a sight to behold. They all seem to be out and about. Even the smallest juveniles are active in their tidepools.

The "Horse Conchs", *Pleuroploca gigantea*, are common to the area. Its bright orange foot can be spotted at a distance. They feed on bivalves, other mollusks and their own young.

The collector of miniature shells (one-half inch or less) may find them almost anywhere. They may be hunted by following their trails, in oyster beds, by sifting collected grunge, in larger dead shells, and in seaweed washed ashore. Some tiny shells can be easily and quickly collected by merely dragging a strainer through the sea grass. Be sure to check your socks and sneakers for them when finished shelling. It seems they are everywhere.

Now that you have collected your specimen shells—what is next? If you just want to keep them from smelling, there are several ways to do this. They can be temporarily stored in containers of Pine-Sol or alcohol. Or they can be put inside two airtight, sealed plastic bags with a couple drops of "Super CD", a concentrated deodorizer available at the drugstore. For other suggestions, see the article "A Tip for Travellers to be taken with Salt", by John Root (see Hawaiian Shell News, Feb. 1979, page 9). Everyone has their own favorite way of eliminating the dead shell's odor when traveling.

We are looking forward to seeing you at this year's C.O.A. Convention. There will be so many interesting and fun things to do at the Don CeSar, many nearby attractions to visit, and, of course, the beautiful beaches to enjoy. My reason for attending the C.O.A. Conventions is to meet and talk with the people that have the same hobby as I do - shells!

#### ADDITIONS AND CORRECTIONS TO MEMBERSHIP ROSTER

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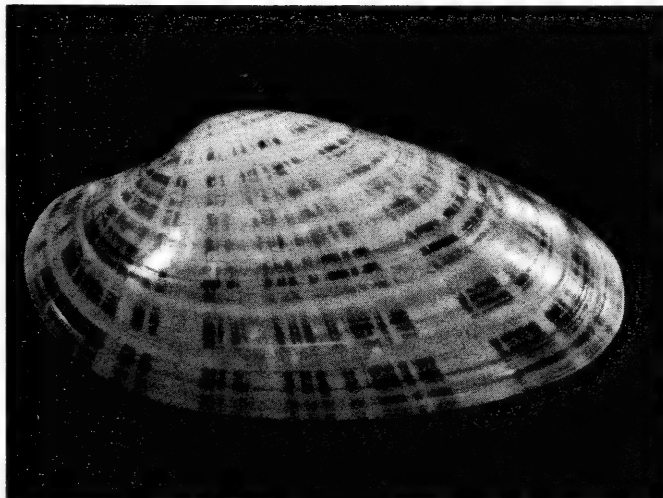


Fig. 2. *Macrocallista nimbosa* Lightfoot, western Florida, 81mm long.

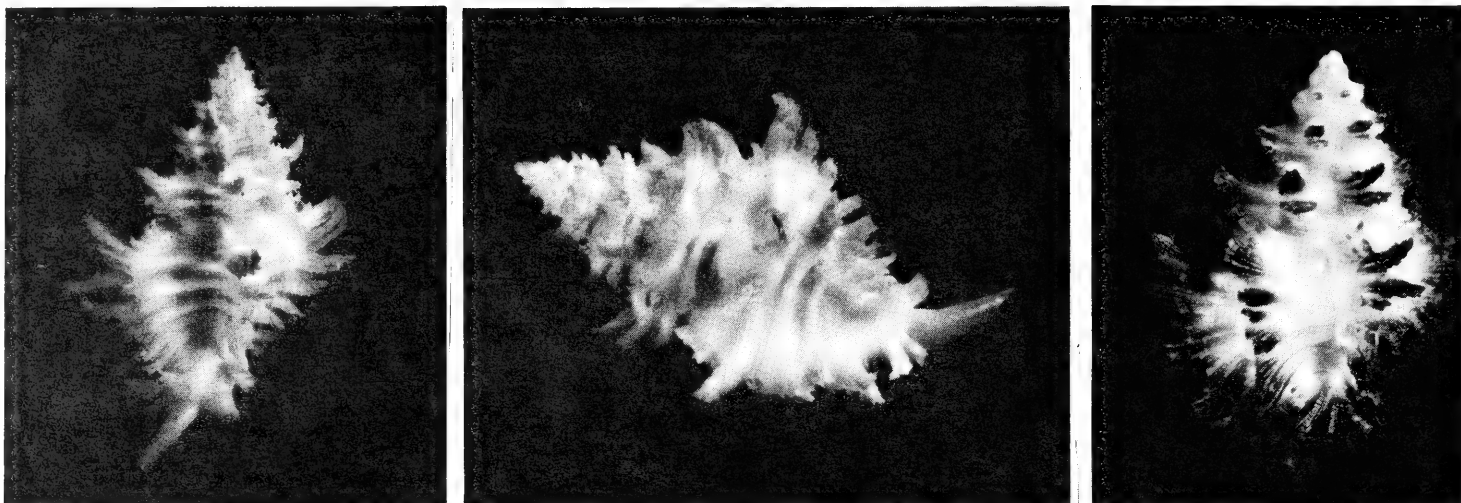


Fig. 1. *Favartia balteata*, a 21.5mm long, pink specimen with black spine tips, AbS 77-350. Fig. 2 (center). An unusual, orange-yellow form of *F. balteata*, 29mm long (AbS 77-348) and (Fig. 3) another view of same shell. The species is relatively common in the Philippines.

## TINY PHILIPPINE FAVARTIAS

by C. GLASS & R. FOSTER

In recent years tiny jewels of shells have been appearing from the Philippines with the data, "taken in deep water by tangle (gill) nets off Punta Engaño, Mactan Island, Cebu." We wondered how such tiny shells could be brought up in such nets. On a recent trip to the Philippines, we enquired about this and it was explained that the nets were often weighted with coral when they were laid down, and often brought up pieces of broken coral that became entangled in the nets, and that the little shells would occasionally be found clinging to this coral when the nets were brought up the next morning. The netters shake the coral into their outrigger boats and collect the tiny shells that are shaken loose. Thanks to these fishermen, many new and previously exceedingly rare species have become available to science and the collector.

Among the more interesting finds are several new and rare species of *Favartia* and, if you will, *Murexiella*. Not only the collector has difficulty distinguishing *Favartia* from *Murexiella*. Many of the species have been transferred from one group to the other, but it seems that the preferred treatment is to recognize *Murexiella* as a subgenus of *Favartia*. From this point of view, the species of *Favartia* recorded to date from the Philippines are as follows:

- F. balteata* (Sowerby, 1841)
- F. cirrosa* (Hinds, 1840)
- F. cyclostoma* (Sowerby, 1841)
- F. dorotheae* (Emerson & D'Attilio, 1980)
- F. jeanae* (Bertsch & D'Attilio, 1980)
- F. judithae* (Bertsch & D'Attilio, 1980)
- F. mactanensis* (Emerson & D'Attilio, 1979)
- F. martini* (Shikama, 1977)
- F. pelepili* (D'Attilio & Bertsch, 1980)
- F. peregrina* (Oliviera, 1980)
- F. tetragona* (Broderip, 1833)

In the early 1970's a shell appeared from Japan (later to be named in its Philippine form as *F. pelepili*) which was erroneously identified as the little-known *Murex cirrosus*. *M. cirrosus* was treated in the Radwin & D'Attilio classification as *Murexiella cirrosa* with a type locality of the Straits of Macassar. In the late 1970's the true species was found in very limited numbers in the Philippines and D'Attilio, in his article "The Rediscovery of *Murex cirrosus* Hinds, 1844," listed the combination *Favartia cirrosa*. The true *F. cirrosa* is

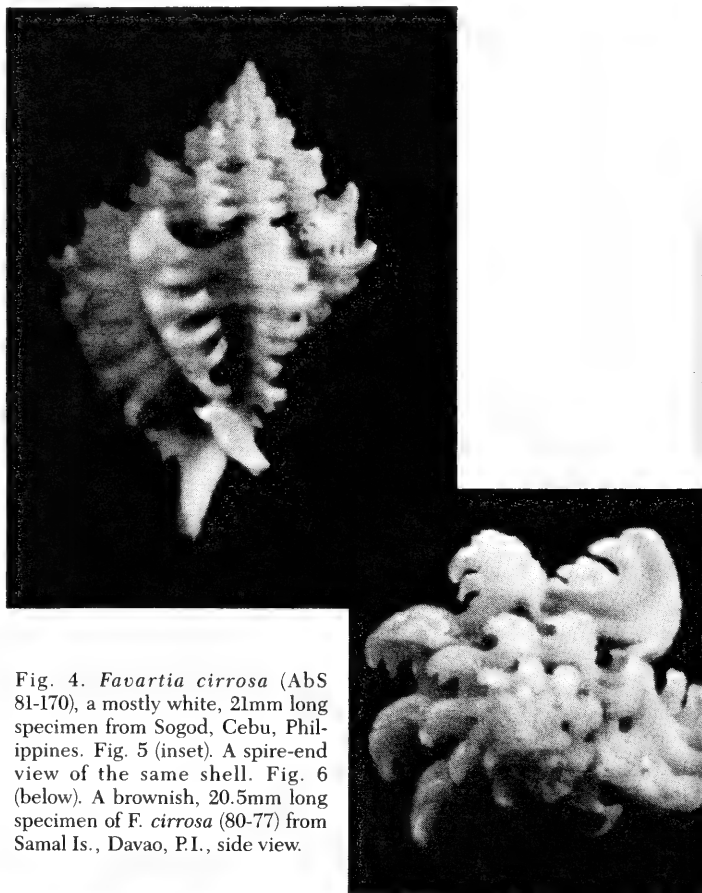
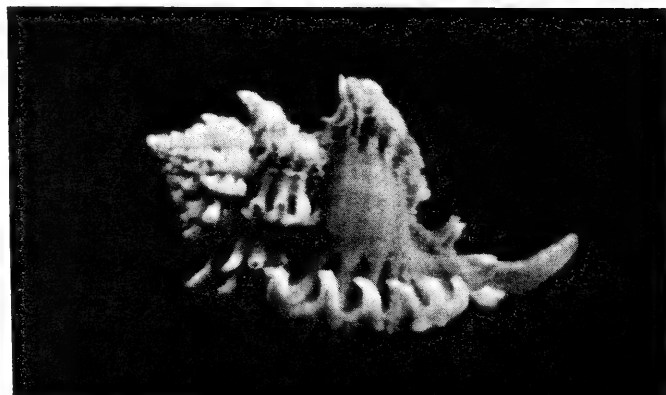


Fig. 4. *Favartia cirrosa* (AbS 81-170), a mostly white, 21mm long specimen from Sogod, Cebu, Philippines. Fig. 5 (inset). A spire-end view of the same shell. Fig. 6 (below). A brownish, 20.5mm long specimen of *F. cirrosa* (80-77) from Samal Is., Davao, P.I., side view.





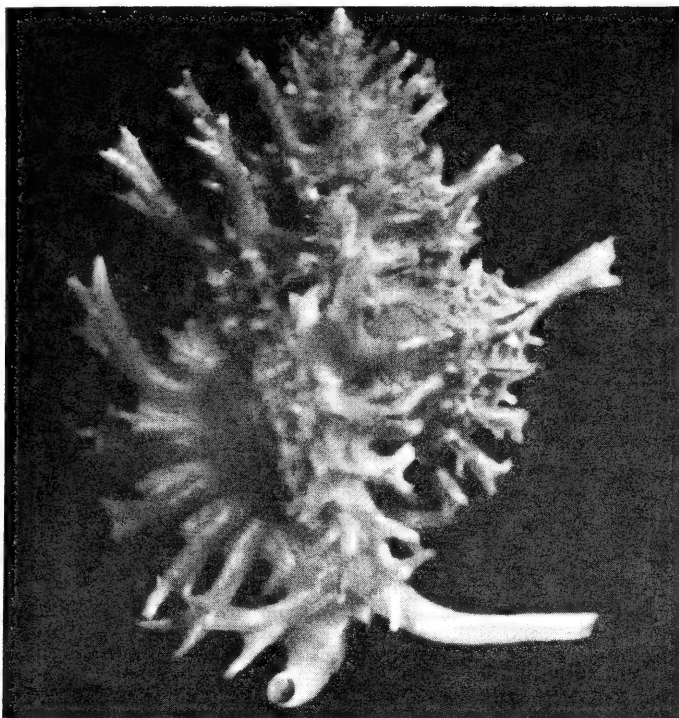
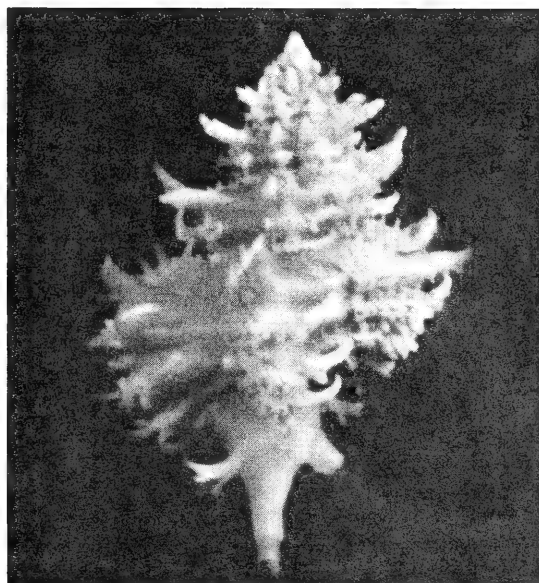
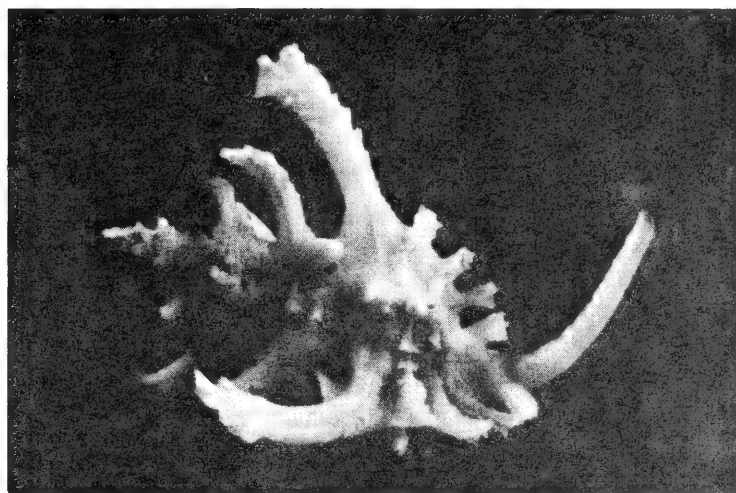


Fig. 7. *Favartia pelepili* (AbS 81-273), a 30mm shell from Mactan Is., Cebu, P.I. Fig. 8 (below). *F. martini* (AbS 83-865), a 23mm long specimen, also from Mactan Is.



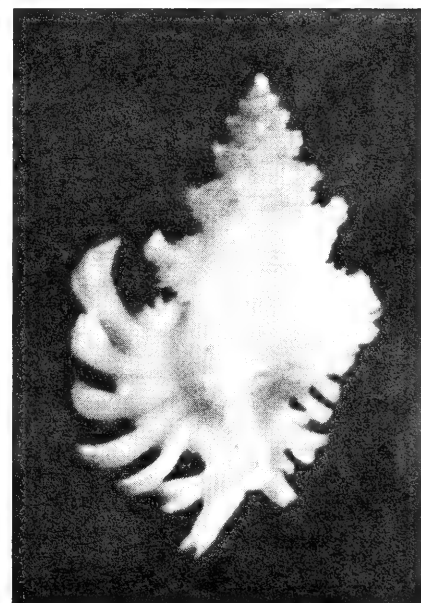
still rarely encountered, even from the Philippines, and the confusion with the Japanese form of *F. pelepili* has carried over to the more common Philippine form of that species. D'Attilio points out that *F. cirrosa* differs in its smaller size, relatively broader shoulder and less elaborate and intricate varical sculpture from *F. pelepili*.

*Favartia martini*, especially in the superb specimens that have been showing up recently (such as that shown in the accompanying illustration) is quite distinct with its exaggeratedly long spines and siphonal canal and 3 varices. Nevertheless, it occasionally shows up in a group of the similarly colored *F. pelepili*, readily recognizable for its 5 varices.

*Favartia mactanensis*, is also closely related to *F. cirrosa* but one should have no trouble identifying it by the simple, unornamented, unusual, rather clavate spines which are particularly prominent on the last varix.

*Favartia judithae* has also been confused with both *F. cirrosa* and *F. pelepili* which is not surprising since, as the original description states, *F. judithae* and *F. pelepili* are of similar morphology. The authors point out that they differ by number of varices (7 for *F. judithae* against 5 for *F. pelepili*) and the smaller size and "reddish"

Figs. 9 & 10 (left and above). Top and side views of AbS 83-194, a 22.5mm long, orange and white specimen of the *F. judithae* from Balut Is., Philippines. Fig. 11 (right). *F. mactanensis* (AbS 79-051), a 21.5mm long, white specimen with a pink flush, particularly around the spire, from Panglao, Bohol.





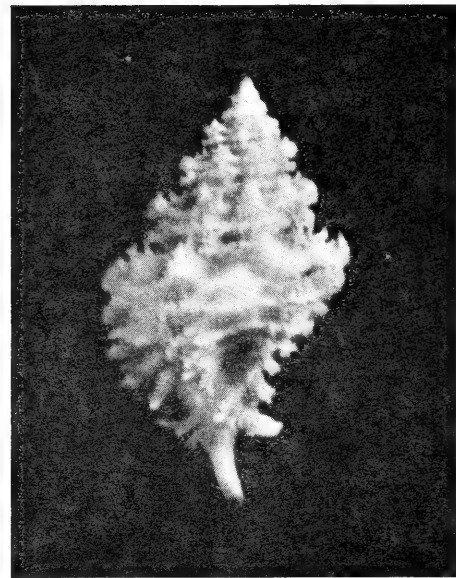
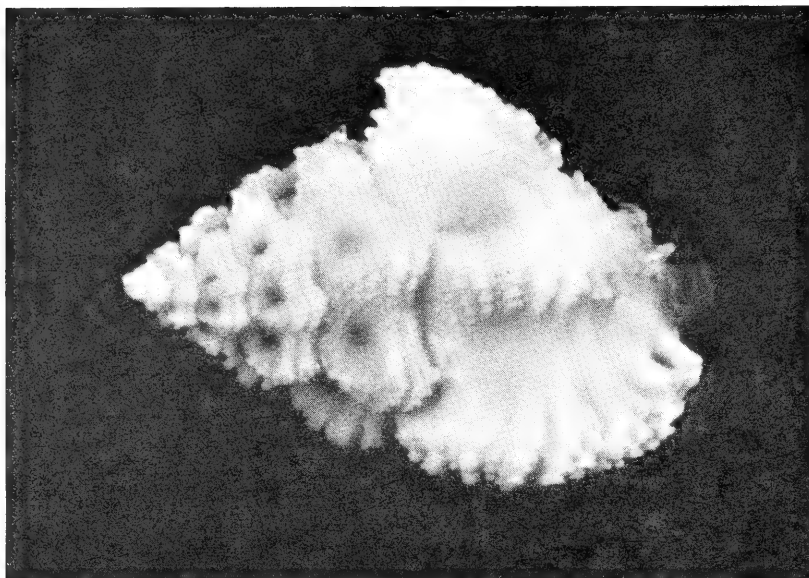


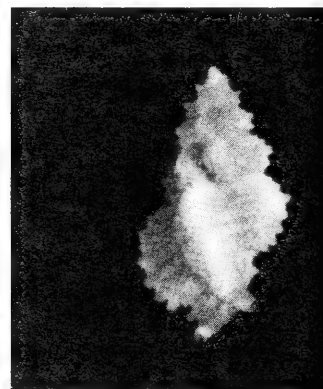
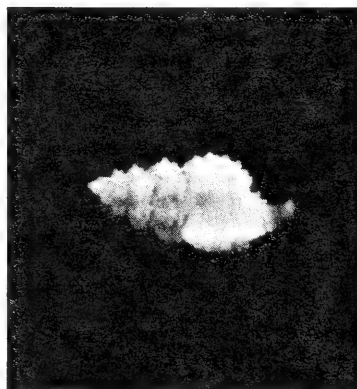
Fig. 12. Side view of a 16.5mm long, pinkish specimen of *F. dorothyae* (AbS 84-015) from Mactan Is. Fig. 13 (right). *Favartia* sp. regularly combined and confused with *F. dorothyae*, this specimen (AbS 84-012) is 19mm long and very pale tan-pink.

color of *F. judithae* as opposed to the brown of *F. pelepili*. In our observations, *F. judithae* is a more delicate shell, more brightly colored, often in shades of orange to white.

In the case of *Favartia dorothyae*, two entities are regularly received under that name: the true *F. dorothyae*, a fat, little shell with 5 prominent but less frilly varices and a very short siphonal canal, and another, unidentified species, similar to *F. judithae* with ruffy varices and a long siphonal canal, but with dark fenestrations on the spire whorls which are not characteristic of that latter species. We should also point out that *F. dorothyae* was described from a tiny, 9mm long shell. Since then much larger specimens have turned up, such as the 16.5mm shell pictured here.

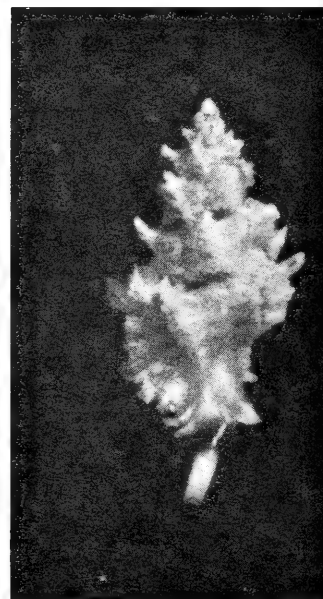
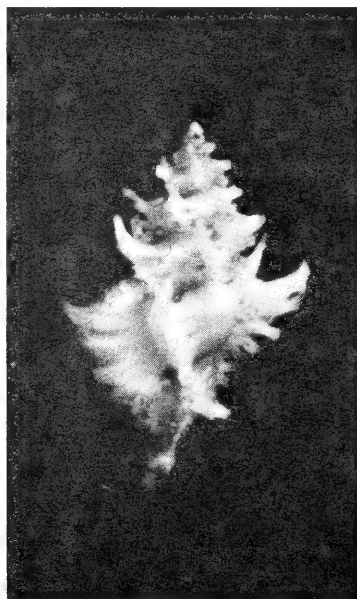
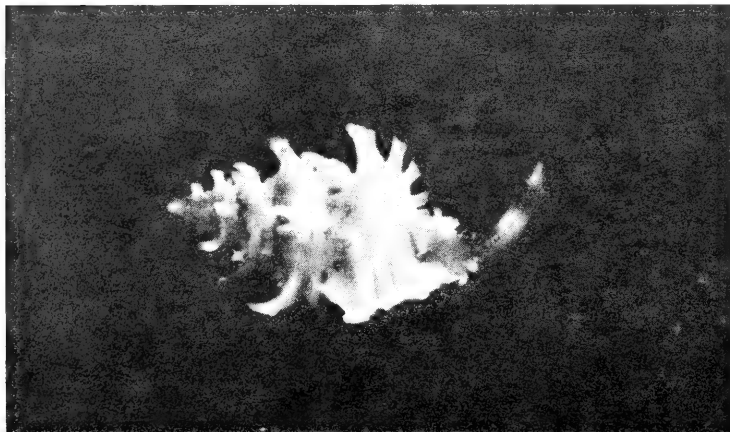
*Favartia jeanae* is, in some respects, similar to *F. dorothyae* but the latter is a proportionately broader, larger shell, the spire shorter in proportion to the fatter body whorl. *F. jeanae* is an orangish shell, typically only 9 - 11 mm long.

Another very tiny species which, however, is nearly always misidentified is *Favartia peregrina*. The true *F. peregrina* seems to be a very rare shell. We were fortunate in finding 3 specimens of *F. peregrina* in an assortment of muricid shells we obtained in Punta Engaño, which are respectively tan, yellow and pink in color, very delicate, and most readily recognizable by dark brown bands at the base and tip of the siphonal canal, a specific characteristic of *F. peregrina*. What is mostly obtained from the Philippines as *F.*



Figs. 14 & 15. Side and top views of a 9mm long specimen of *F. jeanae* (AbS 81-251) from Mactan Is.

Figs. 16-18. *F. peregrina*: below and center, side and top views of a yellowish, 13.5mm specimen, AbS 83-870, from Mactan Is., and (Fig. 18, far right) another, 14.5mm long, tan specimen (AbS 83-871). Note the characteristic color banding on the siphonal canal.



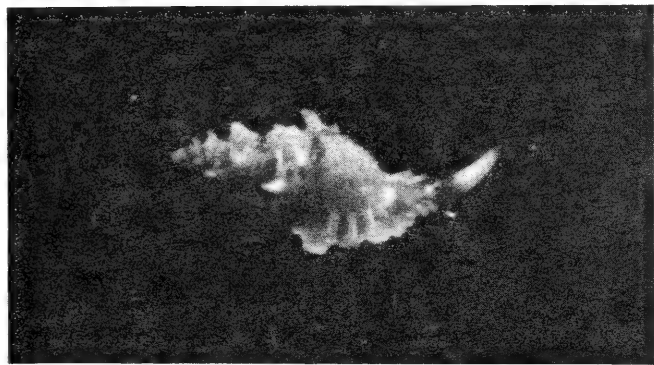


Fig. 19. Another view of the true *F. peregrina*, AbS 83-871, from Mactan Is. Fig. 20 (below). Two specimens (AbS 83-923, 924) of the false "peregrina", also from Mactan Is.

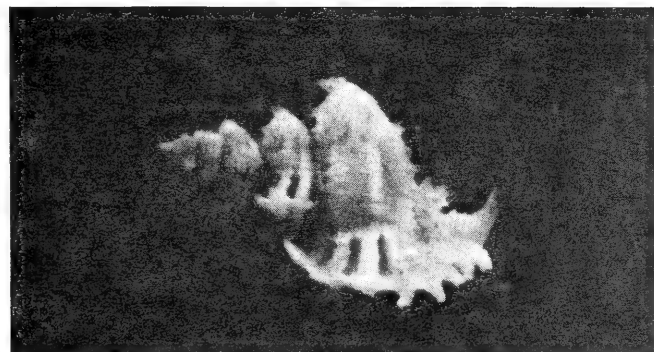
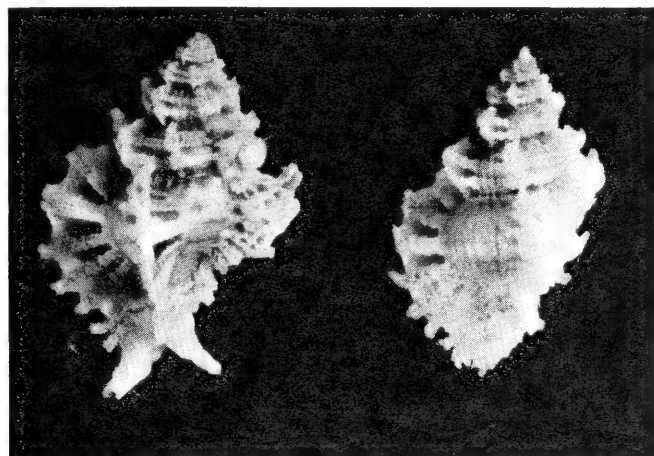
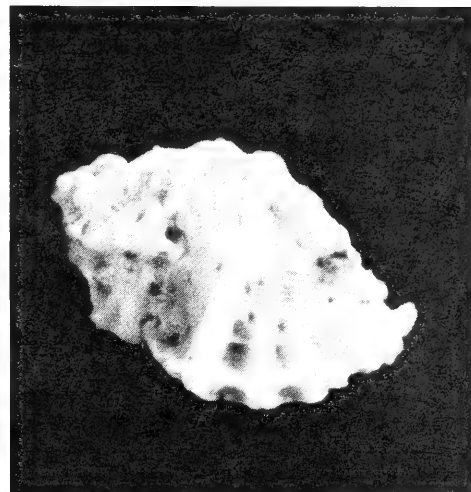
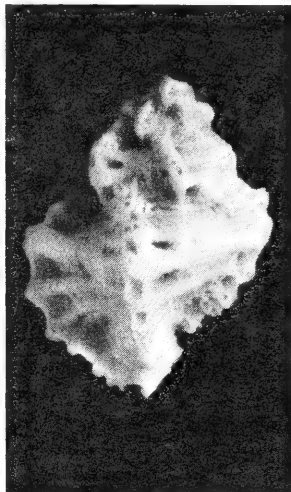
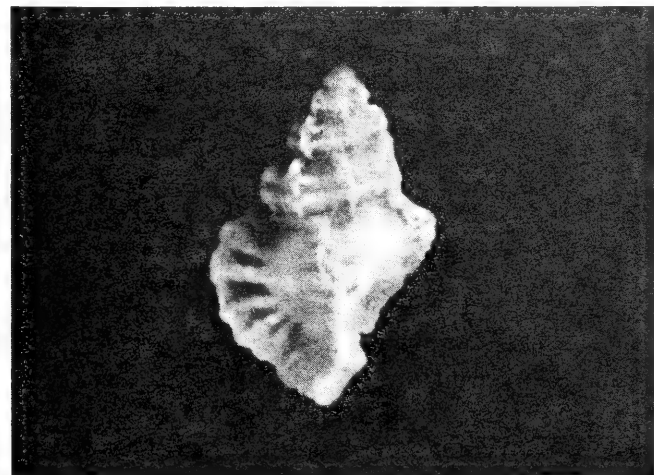


Fig. 21. Side view of AbS 83-924 (see Fig. 20). Fig. 22 (below). A shell (AbS 83-038) we received as *F. garretti* from Hawaii, 9.5mm long.



Figs. 23 & 24. Top and side views of a specimen we received as *F. tetragona* from the Philippines (AbS 81-2421, 15mm long). It has perplexing affinities to *F. garretti*, *F. cyclostoma* and *F. brevicula*, a group which seemingly needs more study.

*peregrina* is referrable, according to D'Attilio (personal communication), to *F. cyclostoma*. We personally wonder whether the Hawaiian species, *Favartia garretti* (Pease, 1868) does not occur in the Philippines too, and whether, in fact, some of these much larger, false "peregrinas" may not represent a larger form of *F. garretti*. They are certainly indistinguishable from what we have received as *F. garretti* from Hawaii!

Perhaps other species of *Favartia*, such as *F. peasei* (Tryon, 1880) occur in the Philippines and, of course, there is always the intriguing possibility that any one of these days some other new, as yet undescribed little jewel will show up on the coral in the nets of the Philippine fishermen at Punta Engaño!

#### REFERENCES:

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Serious exchange Mediterranean seashells with worldwide with emphasis in Mitridae, Muricidae, Volutidae. Write to: Riccardo Giannuzzi-Savelli, Via P31, n19, 90146 Palermo, Italy.

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**THE GEORGIA SHELL CLUB**, Inc. announces their Sixth Annual Shell Show at Northlake Mall, I-285 at La Vista Road, 1000 Northlake Mall, Atlanta, Georgia, Friday thru Sunday, March 23-25th. For more information contact Sue or Bill Vaughn, 3430 Winter Wood, Ct., Marietta, GA 30062, (404) 973-6250.

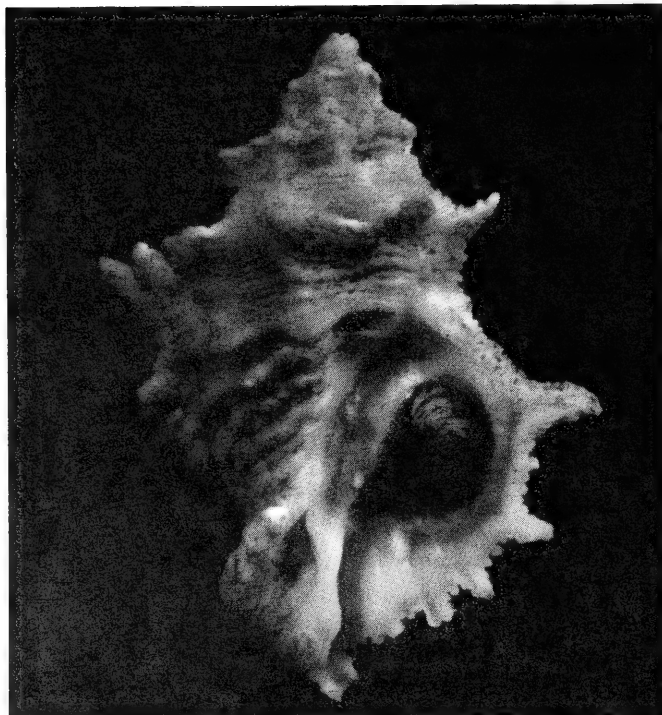


Fig. 1. *Latiaxis oldroydi*, aperture view, with operculum, of a 36mm specimen, AbS 81-222, from 20-35 ft. by "Hole in the Wall", S.E. San Clemente Island.

## CALIFORNIA SEASHELLS PART VI; CORALLIOPHILIDAE

by C. GLASS & R. FOSTER

*Latiaxis oldroydi* (I. Oldroyd, 1929)

"Coralliophile" means "coral-loving" and the family, related to the Muricidae but lacking the radula, mostly feeds on corals. The one species of Coralliophilid in California waters, a member of the genus, *Latiaxis*, is traditionally distinguished as *L. oldroydi*, though Keen treats it as a larger, northern form of *L. hindsii* Carpenter, 1857 (which was a replacement name for Hinds' *Trophon muricatus*, 1844) and Abbott treats both *L. oldroydi* and *L. hindsii* as synonyms of *L. costatus* (Blainville, 1832).

Little information about the occurrence of *Latiaxis oldroydi-hindsii-costatus* appears in the literature. *L. hindsii* and *L. costatus* have ranges which extend as far south as Panama. Abbott refers to *L. hindsii* as a deep-water form. McLean cites *L. oldroydi* as "uncommon below 80 feet at Catalina Island. Range: Point Conception to Cedros Island, Baja, California." The first specimens we found through SCUBA diving were in 90 feet in Pyramid Cove, southern San Clemente Island, so we assumed that, indeed, this was a moderately deep-water species. Subsequently, however, we have encountered *L. oldroydi* in fair numbers in 10-15 ft. on "Little Flower Reef" off southeastern San Clemente and in 10-40 ft. off Casino Point, Avalon, and in 20-40 ft. at Long Point, northeastern Catalina Island. We have also found an occasional specimen in 35-50 ft. off Anacapa Island, at Cat Rock and in Frenchy's Cove. Most specimens were found on rocky reefs seated on top of single polyp "cup corals," true to their family name!

*Latiaxis* is in the subgenus, *Babelomurex*. Japanese malacologists often have trouble with distinguishing l and r, and consequently one encounters the misspelling, "Baberomurex" not only in Japanese shell books, but quoted in American ones as well. A similar switching of consonants also occurred in the descriptions of *Latiaxis*

and *Pterynotus cerinamarumai* Kosuge, 1980 for what should have been "celinamarumai"!

In a shell beauty contest, there is pretty stiff competition from some of the exotic, deep-water Japanese and Philippine cousins. Also, the California species is often found eroded, encrusted and difficult to clean, but an exceptional specimen is an item of both beauty and delicacy as the pictures show.

The shells are chalky white to pale tan, with scaly, spiral cords and flattened, triangular spines around the shoulder of each whorl. The aperture is shiny white to palest violet. Maximum size is given as 47mm. The southern form is generally smaller, maximum length of *L. hindsii* apparently about 20mm. Smaller shells usually have better spination.

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Kosuge, Sadao, 1980, Bulletin of the Institute of Malacology Tokyo, Vol. I, No. 4.  
McLean, James H., 1969, Marine Shells of Southern California, Los Angeles County Museum of Natural History, CA.  
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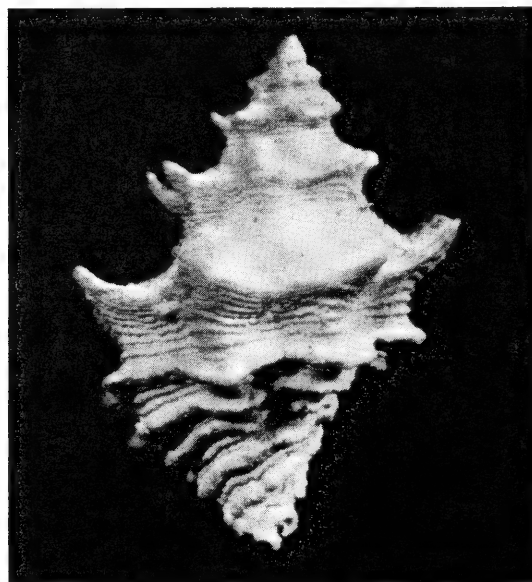
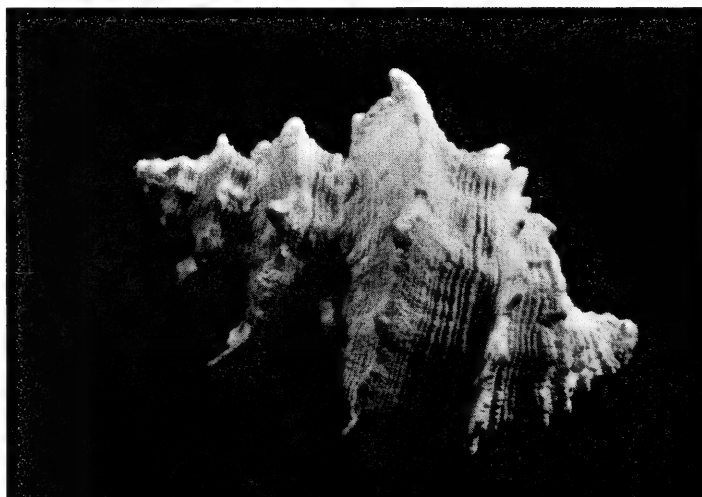


Fig. 2 (above). *L. oldroydi*, AbS 81-1695, 32mm long, Avalon, Catalina Island. Fig. 3 (below). Side view of large (42mm long) shell from Long Point, Catalina: AbS 83-729.







## C.O.A. CONVENTION '84

Have you ever enjoyed the congeniality and camaraderie of a C.O.A. Convention? If you haven't, this is the one to attend. If you have, you will not want to miss this one!

This year's convention, our twelfth, will be held at the pink and palatial Don CeSar Beach Resort (pictured in the last issue of the *Bulletin*), 3400 Gulf Boulevard, St. Petersburg Beach, Florida. Planned for June 27 through June 30, 1984, it will be a perfect time to take advantage of the specially discounted room rates at this magnificent hotel. Besides its being a grand reunion for C.O.A. members, this year's festivities will also be open to and will welcome non-members, whether novice or advanced, shell dealers, and scientists from around the country and the world. And it's a superb time for that family vacation, as Florida's Suncoast offers a multitude of places to see and things to do. In fact, you may find it difficult to juggle your time to attend the fascinating convention activities and indulge in the many easy-to-get-to attractions. Few who visit here want for enough to do. Indeed, even fewer ever manage to take it all in.

The Don CeSar, a beautiful, historic landmark, is situated on a 7 1/2 mile long island, surrounded by the Gulf of Mexico and Boca Ciega Bay; and St. Petersburg Beach is connected to the mainland by (Fla. Route A19A) the free St. Petersburg Beach Causeway and the mini-toll Pinellas Bayway. The special room rates are \$53.00 per night, plus 7% tax, per room, for one through four persons. These rates are extended for three days before and three days after the convention. Reservations should be received by the Don by May 28; after that date, room reservations will be accepted as space is available. All 300 rooms are luxuriously appointed and command captivating views of the encompassing waters. And, of course, there are 5,000 nearby accommodations to suit every need; no matter where you stay, you won't be more than a five-minute stroll from the Gulf.

The Don provides the following complimentary services and features: "Kids, Ltd.," free, supervised activities for children aged 5 to 12 years; you can even arrange for their lunch. Courtesy transportation to the Isla Del Sol, an 18-hole P.G.A. golf course.

Free use of the hotel's beach, health club, tennis courts, jacuzzi, and extra large pool with complimentary towels and chaise lounges. And the hotel's cheerful staff will be pleased to arrange for sailing, deep-sea fishing, SCUBA diving, jet skiing, kayaking, and excursions to nearby islands. Unlimited sightseeing, with pick-up and return to the hotel, includes one-day side trips to a host of attractions, such as Walt Disney World, Epcot Center, Sea World, Circus World, Cypress Gardens and Busch Gardens. Come to the Don. And find out how beautiful a few days in Florida can be.

Plan your own local sightseeing, too, perhaps to Ybor City, Tampa's Latin Quarter, or to Tarpon Springs with its sponge docks, to the nationally renowned Suncoast Seabird Sanctuary for ill and injured birds, or to the internationally famous Salvador Dali Museum — all are within short driving distance. The cultural activities of this area are abundant. Just don't save them for a rainy day; they are too infrequent.

Transportation? We're easy to find on Florida's central west coast — drive, take the train or bus, or fly in to Tampa International Airport. The "Airport Limo," a 24-hour, door-to-door service from the airport to the Don is \$9.00. In Florida, typical weekly car rental rates are \$69.00 a week for a subcompact with standard transmission, and \$139.00 a week for a full-sized four-door automobile. The Don offers valet parking and has free self-parking. Local bus service is also available at the hotel.

We intend to tempt your "shells-resistance" with the following planned program:

Wednesday, June 27: Registration and a special Florida welcome in the morning. Illustrated, informative shell programs will begin in the afternoon. Throughout the convention, unbelievable door prizes of shell books and shell-related items will be given away — the only catch is that you must be present at the time of the drawings, and must be wearing your convention badge in order to win. In the early evening hours, the St. Petersburg Shell Club will host a wine and hors d'oeuvres Welcome and Get Acquainted Party at the Science Center of Pinellas County, a fascinating place to explore. We will be carpooling to the party.





## THE Don Ce Sar BEACH RESORT

3400 Gulf Boulevard  
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(813) 360-1881  
800-237-8987  
Telex 523496



### POINTS OF INTEREST

1. Tarpon Springs Sponge Docks - Greek Church and Spongearama.
5. Clearwater's White Sand Beach - Party Charter Deep Sea Fishing Boats
8. Kapok Tree
12. County Fair Grounds
15. Tiki Gardens
16. Sea Bird Sanctuary
23. Planetarium, St. Pete. Jr. College
25. Sunken Gardens and King of Kings
26. Municipal Pier (end of 2nd Ave. N.) H.M.S. Bounty Replica Historical Museum Fine Arts Museum
28. Bayfront Center (1st St. S.)
30. Wax Museum
31. Boyd Hill Nature Trails
32. Fort DeSoto and Ft. DeSoto Park
33. Busch Gardens
36. Tampa International Airport
38. Florida State Fair Grounds
40. Ft. Homer Hesterly Armory
41. Curtis Hixon Convention Center
43. Bishop Planetarium, S. Fla. Museum
47. Ringling Museum
48. Belms Cars and Music of Yesterday
50. Sarasota Jungle Gardens
51. Disney World and Magic Kingdom
52. Sea World
53. Gatorland Zoo
54. S.S.T. Aviation Museum
55. Circus World
56. Cypress Gardens
57. Boc Tower - Spook Hill
59. Black Hills Passion Play (Feb. - April)

### DINNER THEATRES

13. Showboat Dinner Theatre
19. Country Dinner Playhouse

### FISHING

1. Party and Charter Deep Sea Fishing Tarpon Springs Sponge Docks
5. Big Pier 60 and Deep Sea Party and Charter Boats.
11. Big Indian Rocks Fishing Pier
17. Redington Long Pier
32. Ft. DeSoto Park Fishing Pier

### SHOPPING MALLS

3. Countryside Mall (U.S. 19 & SR-580)
9. Sunshine Mall (S. Missouri Ave., Clwr.)
10. Clearwater Mall (U.S. 19 & SR-60)
18. Pinellas Square Mall (U.S. 19 & 74 Ave. N.)
19. Gateway Mall (7900 - 9th St. N., St. Pete.)
22. Tyrone Square (U.S. Alt. 19 & 66 St. N.)
39. West Shore Mall (I-275 & SR-60, Tampa)

### SPORTS

2. Florida Downs (horse racing)
6. Grant Field (Toronto Blue Jays)
6. Jack Russell Field (Phillies games)
7. Phillies Training Complex
14. Sunshine Speedway (auto & drag racing)
20. Busch Field (St. Louis Cardinals)
21. Derby Lane Dog Track
24. Huggins-Stengle Field (Cardinals)
27. Al Lang Field (N.Y. Mets)
34. Tampa Dog Track
37. Al Lopez Field (Cincinnati Reds)
37. Tampa Stadium (football and soccer)
40. Ft. Homer Hesterly Armory (wrestling)
42. Jai Alai Fronton
44. Pirate City Complex
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### PUBLIC TENNIS COURTS

PRE-REGISTRATION FORM

12th ANNUAL C. O. A. CONVENTION \* JUNE 27 through 30, 1984  
Don CeSar Beach Resort, St. Petersburg Beach, Florida

Name (please print) \_\_\_\_\_ Number in party \_\_\_\_\_  
Address \_\_\_\_\_ Will arrive \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Specify each person's name, city and state as desired on convention badges:

Registration fee (\$15.00 per person; \$20.00 after June 7): \_\_\_\_\_

Banquet tickets (\$16.00 per person): \_\_\_\_\_

Field trips: (1) Shallow water shelling with picnic supper (\$5.00 per person): \_\_\_\_\_

(2) Scenic boat cruise with buffet lunch (\$7.00 per person): \_\_\_\_\_

Dealers' Bourse tables, 8 feet long (\$25.00 each): \_\_\_\_\_

Total enclosed: [ Please make checks payable to: COA Convention. ] \_\_\_\_\_

Mail to: Robert W. Haller  
3210 MacGregor Drive  
Palm Harbor, Florida 33563  
Telephone: (813) 785-8293

Note: The registration fee is required of everyone wishing to attend the get acquainted party, program meeting sessions and field trips. No registration fee is required of anyone wishing to attend only the dealers' bourses, shell auction or banquet.

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HOTEL RESERVATION

C. O. A. CONVENTION \* June 27 through 30, 1984

Name (please print) \_\_\_\_\_ Telephone No. \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

REQUESTED ACCOMMODATIONS

Arrival date \_\_\_\_\_ Departure date \_\_\_\_\_  
Party consists of: Adults \_\_\_\_\_ Children age 12 and under \_\_\_\_\_  
Room accommodations desired: One double bed \_\_\_\_\_ Two double beds \_\_\_\_\_  
Rollaway bed \$12.00 \_\_\_\_\_ Crib needed (free) \_\_\_\_\_ [ Sorry, no pets. ]

One night's deposit of \$53.00 plus 7% tax per room for one through four persons must be received by May 28, 1984. After this date, room reservations will be accepted as space is available. For additional information, rates or reservations, see your favorite travel agent or call hotel: (800) 237-8987 [in Florida (813) 360-1881]. Note: Deposit refundable if cancellation received 48 hours prior to arrival. Please call hotel direct for your cancellation number.

Please make checks payable to the Don CeSar Beach Resort.

Mail to: The Don CeSar Beach Resort  
3400 Gulf Boulevard  
St. Petersburg Beach, Florida 33706





Thursday, June 28: Our first Dealers' Bourse will take place in the morning. Relax in the afternoon by enjoying more illustrated programs designed to expand your shell horizons. Complete the day with an early evening field trip for shallow water (80-plus degrees!) shelling at an area dedicated as a bird, plant and animal sanctuary; a picnic supper will be included. We will carpool to the area. Bring the family, as there are several miles of fine beaches for swimming (lifeguards on duty); the picnic area is surrounded by ancient oak trees which provide cooling breezes and wonderful shade; the picnic tables overlook lovely Tampa Bay. Naturally, you'll wish to wade and wander in the low tidal waters and collect our local specimen shells. The cost will be \$5.00 per person.

Friday, June 29: More of those intriguing, illustrated shell programs. Around noon, we'll carpool to a local dock to board a double-decked sightseeing boat for a scenic buffet luncheon cruise. The total cost will be \$7.00 per person. Return to the Don in plenty of time to inspect the many marvelous specimen shell treasures to be auctioned off that evening.

Saturday, June 30: The last of the interesting and excellent educational programs are scheduled in the morning. The final Dealers' Bourse will occupy the afternoon. Cocktails will begin the evening festivities, highlighted by a sumptuous banquet. Relax afterward, as Robert J. L. Wagner, our banquet speaker, regales us with his own inimitable program. And, to top it off, we have planned some special surprise entertainment. Banquet cost: \$16.00 per person.

Pre-registration fee is \$15.00 per person through June 7; after that date, the fee will be \$20.00 per person. Please take note, the registration fee is required of everyone wishing to attend the get acquainted party, program meeting sessions and field trips. No registration fee is required of anyone wishing to attend only the dealers' bourses, shell auction or banquet.

We welcome and need specimen shell donations for our shell auction, be it one shell or many, from members and dealers alike. (Proceeds from the auction help fund publication of our C.O.A. Bulletin and "Grand Trophy" awards presented at over twenty shell shows around the country and overseas.) Any and all contributions will be greatly appreciated and contributors will be acknowledged in the convention souvenir program booklet and C.O.A. Bulletin. Please be generous and pull out those goodies right now and send them to Joan Pierson, 8597 42nd Avenue North, St. Petersburg, Florida 33709. Each specimen will be cataloged; please include available locality data. Specimen shells should be sent to arrive no later than June 7 to be included in the auction catalog for each person at the convention.

By the same token, we welcome and desire additional shell-related items to be given away as door prizes throughout the four-day convention. Shell books, shell art and other objects will be appreciated and contributors will also be acknowledged in the convention souvenir program booklet and C.O.A. Bulletin. Please

send the door prizes to Dorothy Rode, 11975 Third Street East, Apt. 4, Treasure Island, Florida 33706. Door prizes should be sent to arrive no later than June 7 for acknowledgment in the souvenir program booklet.

Dealers, what would we do without you? You make possible the joyous hours of browsing your wares with the opportunity for us to purchase specimen shells, shell art, cabinets, fabrics, books and shell-related items. Where else can we find so many dealers gathered in one place, so that we might acquire that specially coveted specimen for that "some-day" spot in our shell cabinets? To help make it easy for you, we have arranged for a special Dealers' Bourse room, located on the ground floor of the hotel, with easy access from your vans. Dealers' displays can be set up Thursday morning, without dismantling until after the Saturday afternoon bourse. The room is secured with deadbolt-type locks and can accommodate up to 35 tables, 8-feet long. The cost per table is \$25.00, total charge.

Though most of our programs are finalized, Program Chairman Phil Schneider, 118 Phillips Way, Palm Harbor, Florida 33563, still has a few openings available. We invite and encourage you to share your special talk and/or interesting, illustrated topic with all of us. Contact Phil now!

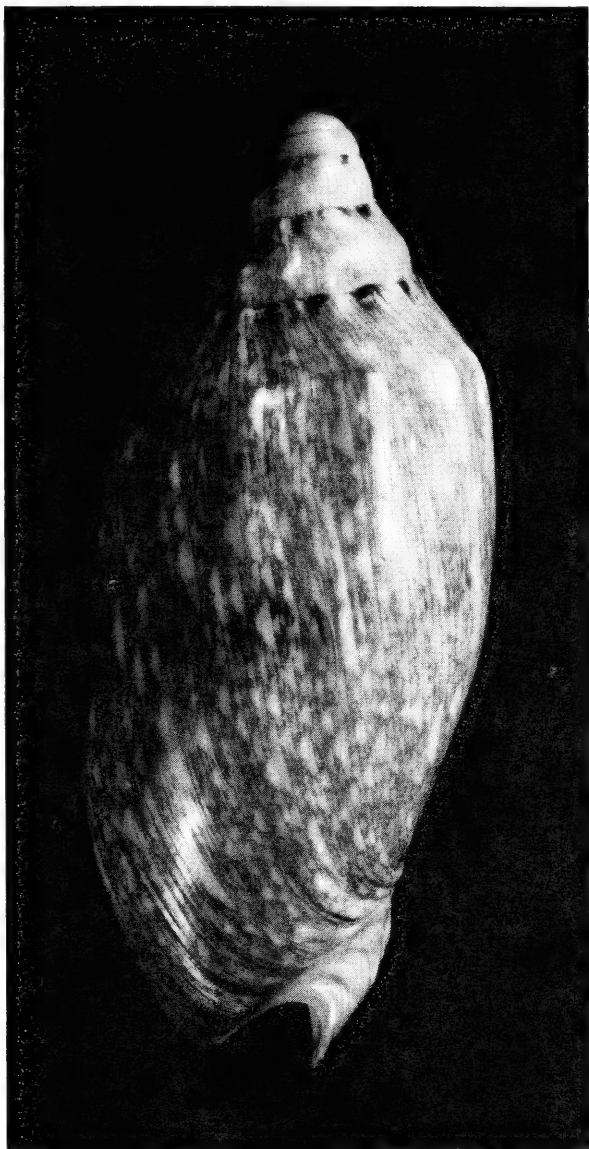
As an additional innovation, we have arranged to have a social room available so that you can meet and visit with your old buddies and new friends outside the dedicated atmosphere of the program sessions. And we plan to have some fascinating and award-winning exhibits there for your viewing pleasure.

To ensure a fabulous convention for you, the shell enthusiast, and for your supportive spouse, family and friends, we have also planned something each day for the non-sheller to enjoy — the welcome party, the field trip and picnic, the boat cruise and lunch, and the finale banquet with guest speaker and surprise entertainment. Program sessions, field trips, auctions and bourses have all been timed so that no part of your anatomy will feel over-exerted! And the program meeting room and banquet room can accommodate up to 350 persons. We are looking forward to this convention being the biggest, friendliest (as is the tradition), and best C.O.A. convention yet. Do join us and the greatest array of friendly shellers from around the country and the world. Yes, all the shell clubs around the world have been extended invitations to attend this outstanding shellers' event of the year. We are also looking forward to a record attendance of overseas collectors.

Registration forms for the convention and for the hotel are included as part of this insert. Fill them out and send them in today!

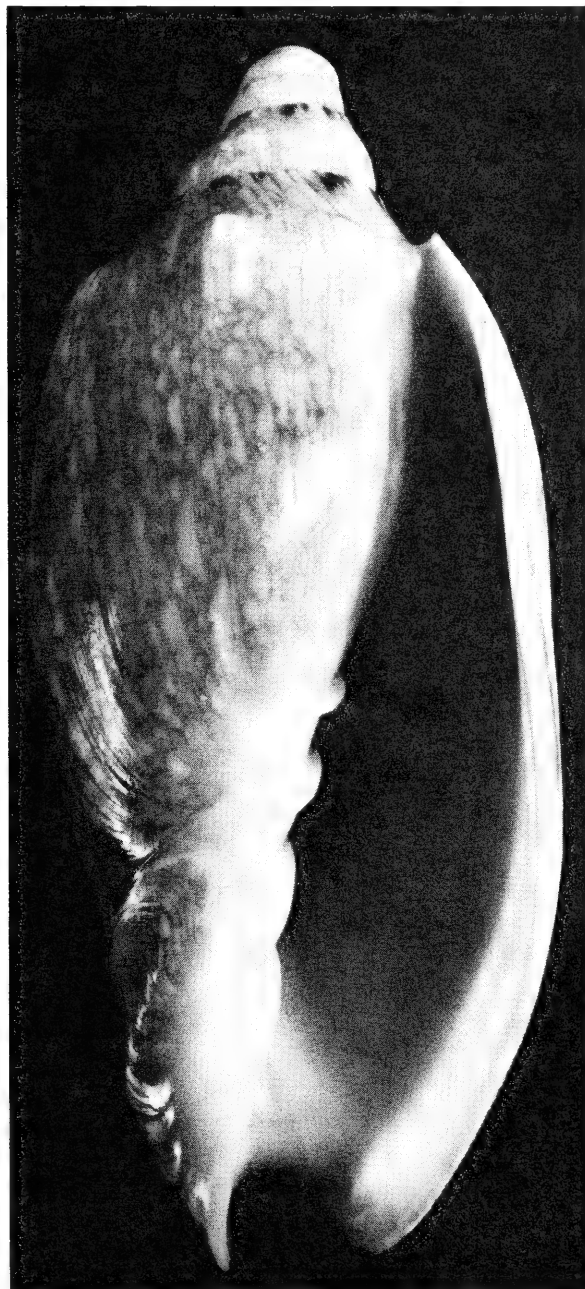
Further inquiries can be made to Donald J. Young, Convention Chairman, 11975 Third Street East, Treasure Island, Florida 33706.





One taxon which has surprisingly been overlooked by all these authorities, in their concentration upon the variant, *ceraunia*, is *Voluta innexa* Reeve, 1849. Indeed, in *The Living Volutes* (Weaver & DuPont, 1970, p. 88), *V. innexa* as well as *V. ruckeri* var. *ceraunia* are both listed as synonyms of *Cymbiola* (*Aulicina*) *rutila norrisii* (Gray, 1838), but in our opinion, if one wishes to compare *C. marispuma* with a variant of *C. rutila*, a glance at Plate 4, figs. 9a & 9b, in Reeve's *Conchologia Iconica*, Vol. 6, 1849, would persuade one that *Voluta innexa* is the taxon with which it should be compared.

Figs. 1 & 2. *Cymbiola marispuma* in the authors' collection (AbS 82-1799) 107.5mm long, from the type locality, Cikjang, Java, dorsal and aperture views.



## A FEW MORE WORDS ABOUT CYMBIOLA MARISPUMA

by C. GLASS & R. FOSTER

In 1977 Angioy & Biraghi proposed the new species of volute, *Cymbiola marispuma* in *La Conchiglia*, No. 101, July-Aug., pp. 7-8. The authors compared their new species to *Cymbiola rutila norrisii* and its color form, *ceraunia*. In *Hawaiian Shell News*, Vol. 26, No. 2, Feb. 1978, p. 12 ("Volute Problems: The Status of *Cymbiola marispuma* Angioy & Biraghi, 1977"), Weaver offers his opinion that it does not represent a valid species and quotes Leehman and Abbott to the effect that it is *Voluta ceraunia* Crosse, 1880, a population variant of *Cymbiola rutila norrisii* (Gray, 1838). The authors, in a mordant rebuttal ("More About *Cymbiola marispuma*", *La Conchiglia*, Nos. 120-121, March-April, 1979, pp. 9-10), attempt to devastatingly demolish Weaver's argument that *C. marispuma* is identical with Crosse's *ceraunia*.





Fig. 1. Table coral on a lagoon coralhead, Kwajalein Atoll. Photo by author.

## KWAJALEIN'S CORAL PINNACLES

by JEANETTE HAMMON

Rising from depths of up to 200' in the Kwajalein lagoon, coral heads or pinnacles offer excellent shelling in addition to some of the most breathtaking underwater beauty found in the tropical ocean waters of the Central Pacific. These pinnacles, found throughout the lagoon, easily number in the hundreds at Kwajalein Atoll alone and are as diverse as the flora and fauna that make up and inhabit them.

The pinnacles nearest Kwajalein Island rise to within 15-30 feet of the surface and there is speculation that at one time the tops may have been blasted off to reduce their threat to navigation. Fifteen or so of these large coral pinnacles have been marked with buoys, making them easy destinations for both day and night diving, but the majority of unmarked pinnacles remain virtually untouched.

The pinnacle top is largely determined by its position in the lagoon and/or surface depth. If near a reef pass, the top may bear the brunt of storm related swells and is often scoured and battered. Deeper or more protected and the tops can maintain beautiful coral formations and vast areas of solitary loose-lying mushroom coral, *Fungia*. Under the top layer of live coral are multi-layers of dead *Fungia* and although a few species of *Epitonium* have been found under the live polyps during the day, it is at night that many small shells crawl out from their hiding places in the dead coral so that lifting up a live mushroom coral, many small species of *Cerithium*, *Mitra*, *Triphoridae*, *Cypraea* and *Conus* are exposed.

Shells such as *Pecten pallium*, *Nassa sarta*, *Bursa granularis*, *Cymatium nicobaricum*, *pileare*, *Turbo petholatus*, *argyrostoma*, *Trochus niloticus*, *pyramis*, *maculatus*, and *Strombus dentatus* are common to nearly all coral pinnacles and in addition there seems to be a population of a particular species unique to each pinnacle. For example, tiny two inch *Cypraea mappa*, seldom found elsewhere in the lagoon, are unexceptional on one pinnacle while a large colony of as yet unnamed cerithium hang like tiny icicles from the caves and rocks of another. Two small pinnacles several hundred feet apart contained populations of *Conus crocatus* for several years but each of the rubble habitats was limited to a 30' x 40' area and the temptation was too great to resist collecting as many as possible of this rare shell. The areas were searched relentlessly by many divers until this species has all but disappeared from these locations. Fortunately, several other more inaccessible spots in the lagoon will provide an occasional specimen of this rare species for a lucky diver.

The beautiful and unique *Cypraea stolidus kwajaleinensis* Barbier can sometimes be found on a few pinnacles and was even a regular

find for me on the corner of one pinnacle until Typhoon Amy (1980) completely rearranged my "secret spot", destroying the habitat.

Looking down the sides of one of these small underwater mountains during the day affords a spectacular view. Huge "table-top" corals descend in fragile tiers, some exceeding 10 feet across. Thickets of antler coral, rolling hills and fields of coral species too numerous to mention, interrupted only by pools of white calcareous sand, continue as far as visibility permits. The living corals rise above layers of sponge and algae covered substrata offering a multitude of hiding places for mollusks, and hide they do! Only the horror of a crowbar in this exquisite environment would reveal the shells which inhabit the pinnacle sides, so sensible shell collecting must be done at night. The cracks, crevices and undersides of dead corals are covered with multi-colored sponges and it is on these sponges and in small caves and holes that most of the shells are found.

Although many pinnacles can be completely encircled during a dive, most often they are not as the shell collector must progress at a slow, meticulous pace. The diver must be quick to focus and recognize the shells in the small, hard to reach spaces as they often crawl away very fast or simply let go of the surface they are feeding or crawling on and drop out of sight and reach. *Cypraea martini* requires great skill at finding and once spotted, moves fastest of all *Cypraea* found at Kwajalein, crawling off and disappearing within a few seconds.

The chick-pea group of *Cypraea* are well represented, *Cypraea globulus* being a sure find on one pinnacle while *Cypraea cicercula* is more common on another. One of my favorite pinnacles yielded beautiful large specimens of *Cypraea cicercula*, *bistrinotata*, *globulus*, and *margarita* for me in a single night dive.

Occasionally seen is *Conus geographus*, its respected reputation as one of the most dangerous cones is matched only by its spectacular majestic foot, extended well beyond the shell much like a



Fig. 2. Live *Cypraea stolidus kwajaleinensis* in habitat; photo Jim Wedge

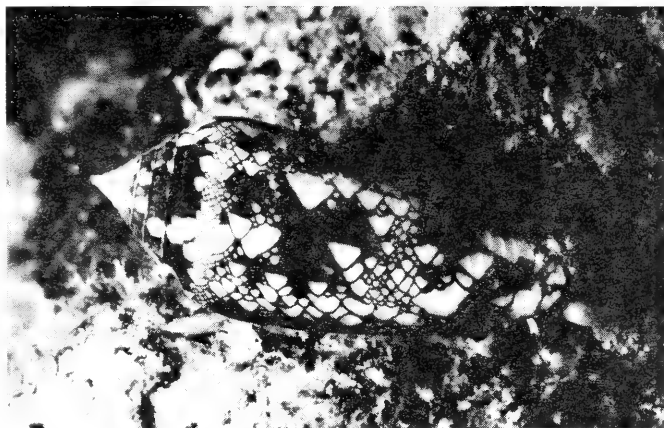


Fig. 3. *Conus aureus*, a live, 90mm specimen in habitat, Kwajalein; photo Jim Wedge.



Fig. 4. *Conus crocatus* in habitat; photo Jim Wedge.



Fig. 5. *Cypraea cicercula* in habitat; photo Scott Johnson.

royal robe. Most coveted of all cones in the atoll is *Conus auratus*. Although disputed as a valid species by some, the Kwajalein *C. auratus* shows little resemblance to *Conus aulicus* with which it is associated. On the rare occasions it is found, it is frequently "crabbed" and shows signs of previous crab or octopus attacks, the fragile lip broken and mended several times prior to its final battle, but it remains a much treasured find in spite of its combat scars.

Other favorite discoveries have been miters such as *Pusia millecostatum*, *catenatum*, *molleri*, *fortiplicatum*, *turben* and *tusum*. *Conus aureus*, *circumciscus*, *Cypraea argus*, *scurra*, *staphylaea*, *limacina*, *Haliotis ovina* and *Strombus fragilis* are not uncommon at night.

My favorite and certainly the most beautiful coral pinnacle known at Kwajalein is located near Roi-Namur Island some 50 miles

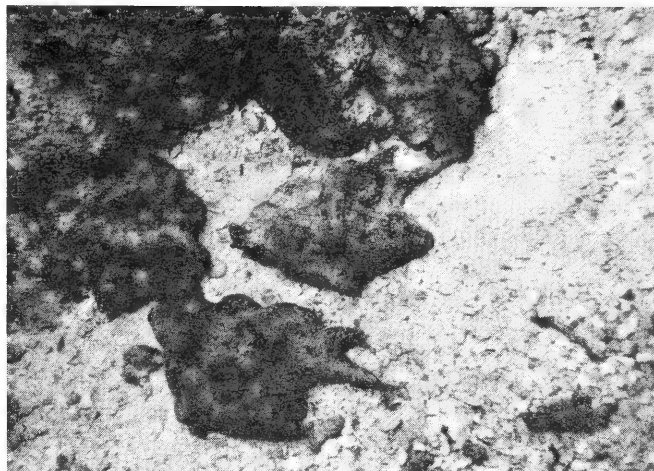


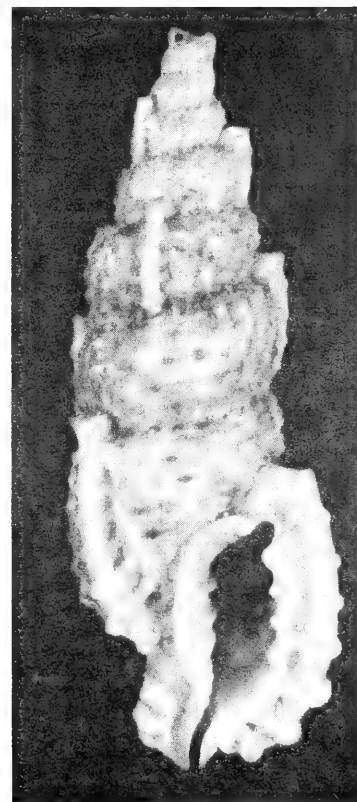
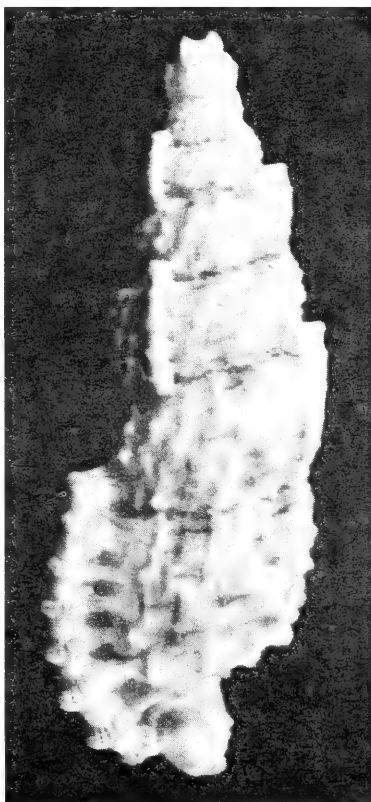
Fig. 6. Four *Strombus taurus* in habitat, northern Kwajalein Atoll; photo Scott Johnson.

NE of Kwajalein. The top of this exceptional pinnacle contains many independent coral formations surrounded by open areas of calcareous sand and living *Halimeda* algae, the latter supporting a large population of *Lambis lambis*, *crocata*, *scorpius*, *chiragra* and *truncata*. Beautiful specimens of *Conus floccatus* have been collected here as well as the uncommon *Strombus taurus*. The distinctive features making this coral pinnacle unique are the numerous coral formations of such artistic symmetry that it looks as if a florist arranged each "bouquet" using only the most perfect coral specimens, then sprinkling a perfect number of exquisite tropical fish as the final touch.

Whether diving the rubble tops during the day or the fragile sides at night, coral pinnacles provide an exciting opportunity for the shell collector.

#### MYSTERY SHELL

And speaking of Kwajalein shells, who can help identify this curiosity collected in Kwajalein by Jeanette Hammon? The specimen is 28 mm long and was taken in 50 ft., oceanside, West Reef





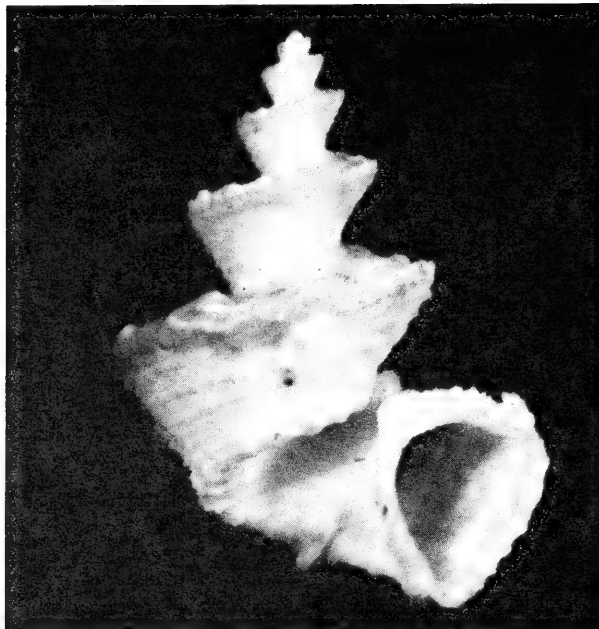


Fig. 1 (above, left). *Epitonium kuroharai* Kuroda, AbS 81-272, a 51.5mm shell taken in 100fm with gill nets off Punta Engaño, Cebu, Philippines. Fig. 2 (center). *Trigonostoma pellucida* (Perry, 1811), a 36.5mm shell, AbS 80-1078, taken in 80fm with tangle nets off Panglao, Bohol, Philippines. Fig. 3 (right). *Ancistrostrix elegans* Dall, 1881, a 34.5mm turrid, AbS 82-1777, dredged by shrimp in 1967 off Key West, Florida, in 220fm.

## SHELLS FOR THE AMATEUR

by C. GLASS & R. FOSTER

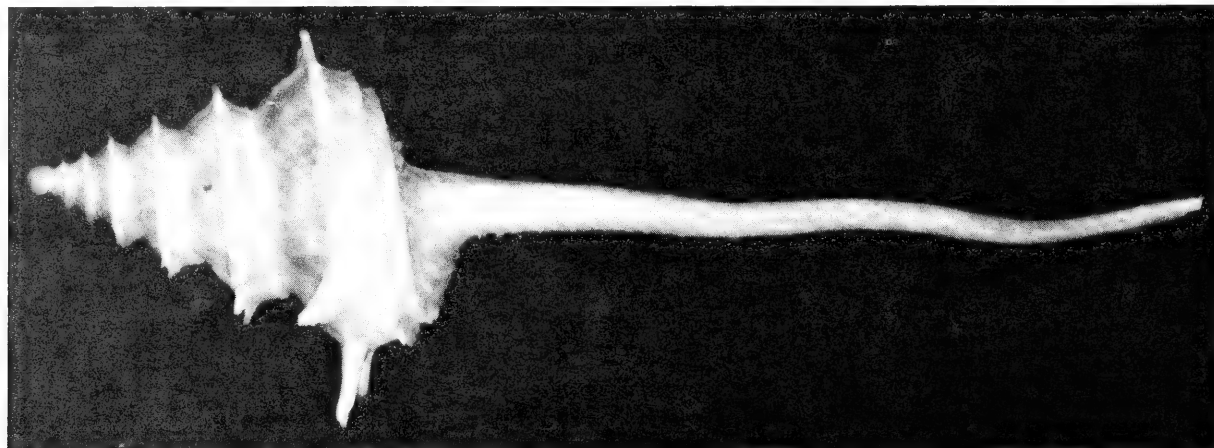


Fig. 4. *Columbarium hedleyi* Iredale, 1836, a 104.5mm long specimen, AbS 83-515, trawled in 200fm off Sidney, Australia.

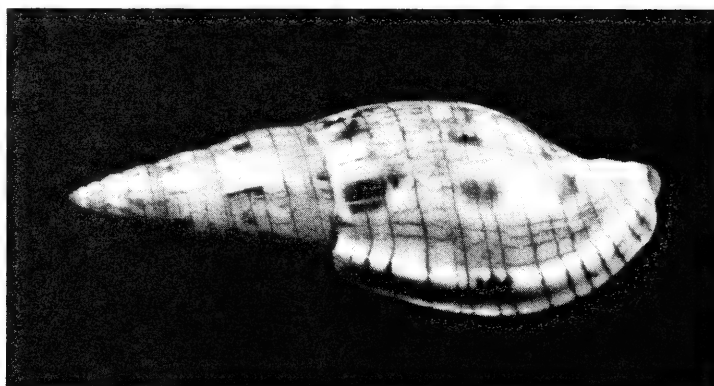
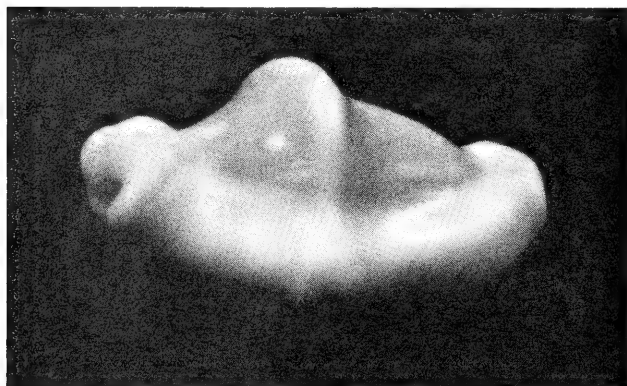


Fig. 5. *Cyphoma emarginatum* (Sowerby, 1830), AbS 82-1762, taken at night, eating on gorgonian in 20 ft., San Carlos Bay, Sonora, Mexico. Fig 6 (right). *Lyria habei* Okutani, 1979, AbS 83-982, from Bohol, Philippines. Okutani's description is apparently of the same taxon as *Lyria dondani* Angioy & Biraghi, 1982. In a way this is a shame for the taxon is closely related to (a smooth version of, if you will) *Lyria vicdani* Kosuge, named for Donald Dan's brother Victor!

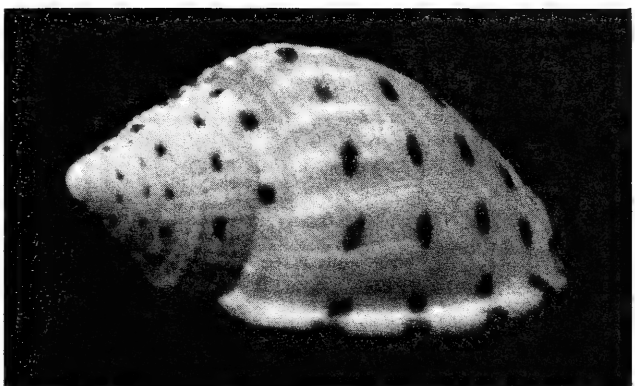
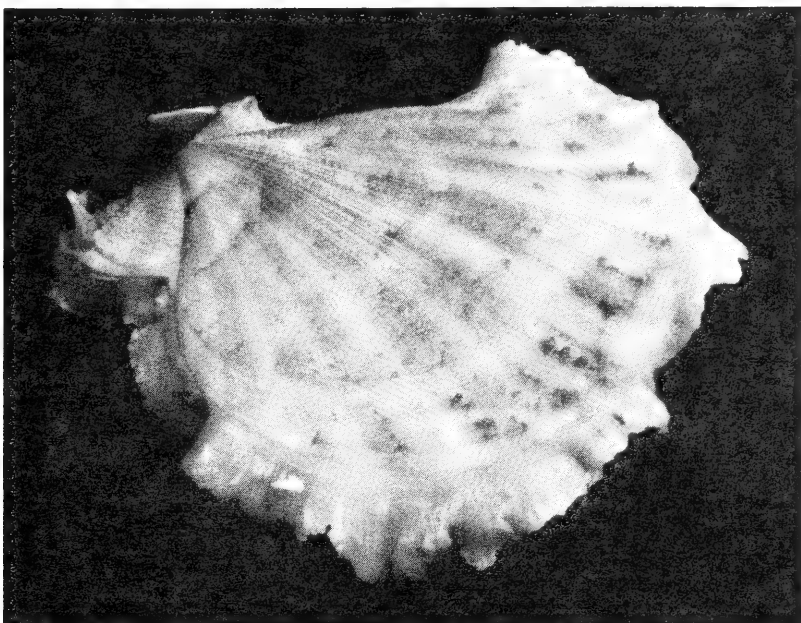
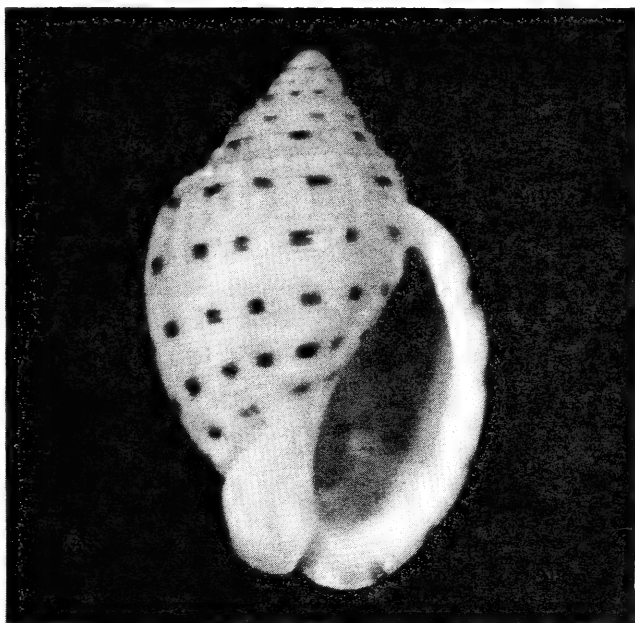
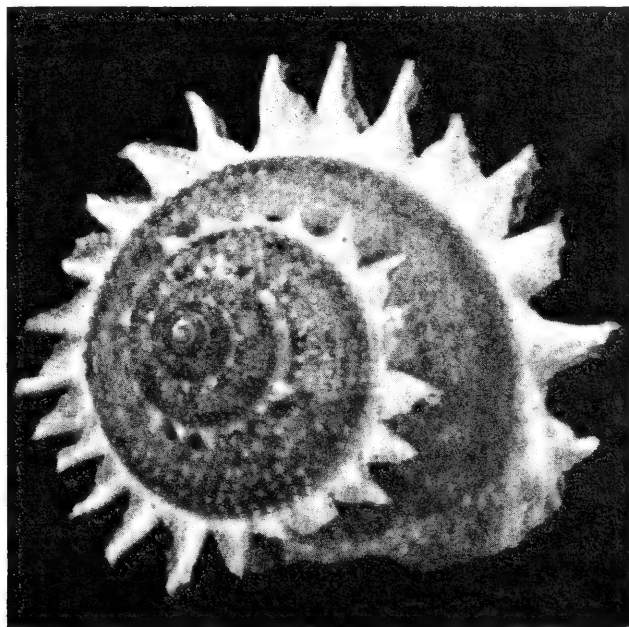
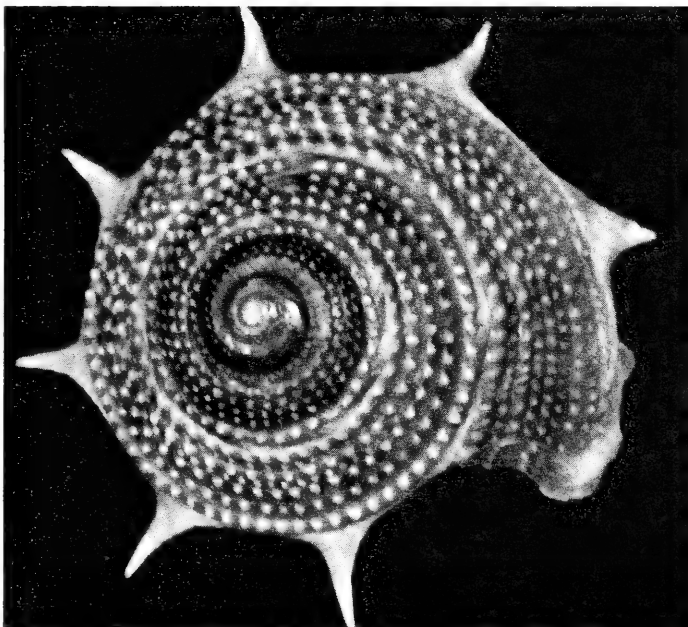


Fig. 7 & 8 (left). *Phalium adcocki* (Sowerby, 1896). This rare shell, AbS 83-302, just under 31mm long, was trawled in 20fm off the Eyre Peninsula in southern Australia. Fig. 9 (above). *Pecten absconditus* Fisher, 1898 (AbS 84-051), a most unusual and remarkable species from 110m off Cap Manuel, Senegal, West Africa. The lower valve is more like that of a spondylus, but, like a pecten, the shell grows unattached to the substrate!

Fig. 10 (below, left). *Guilfordia kurzi* Petuch, 1980. This shell, AbS 80-123, shown approx. X 1.75, was trapped in 60fm off Balicasag Is. Bohol, Philippines. There is some question as to the correct name as what is apparently the same species is pictured in the Bull. of the Inst. of Malacology, Tokyo, as *G. aculeatus* Kosuge, 1979. Fig. 11 (below, right). *Astraea* sp. AbS 82-1278, approx. X 1.75, from deep water off Punta Engaño, Cebu, Philippines. There is some question as to the identity of this shell. We received a similar shell under the name *Galeoastraea erectospinosa* Habe & Okutani and another under the name *Bolma erectospina* Kosuge. What it most resembles is Kosuge's new *Bolma minutiradiosa*.





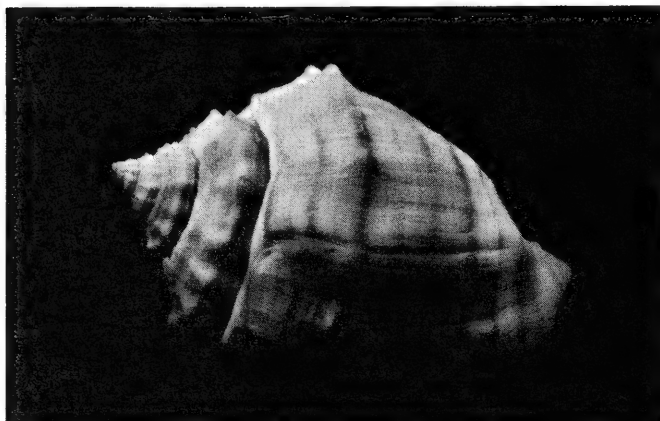


Fig. 1. *Cancellaria cassidiformis* Sowerby, a 53mm long specimen (AbS 81-1993) from Punta Coyote, Gulf of California.

## A FEW DAYS IN MEXICO

by MARI HUGHES

Wonderful shelling on my last trip! The trip was planned by my friend, lovely Anne Gardiner of Tucson, Arizona. First she invited me, then she lured me with the gift of a book, *Shelling in the Sea of Cortez* by Paul E. Violette, which focuses on the Guaymas, Sonora area. Anne, a sometimes professional tour guide, planned the trip to the last detail, Holy Week notwithstanding. Natalee Howard, "The Shell Lady" of Houston, Texas, was a great guide in shelling areas also. Dana Kerstitch gave us input so we knew to climb a particular mountain to get to a beach with good shelling; needless to say, we were the only ones there!

We found the Mexican people we met kind and generous, some giving us shells and others showing us where they shelled. The road patrol was everywhere and most kind and helpful when we got lost. The food was excellent and the dollar value made the trip very inexpensive. Since I live in Florida, it was a big thrill to see mountains, snow, and spring wildflowers in all their glory. All the shells were new to me, as I had never been there before.

The best shelling was at San Carlos Bay, the isthmus, and the estuary. At the isthmus near Miramar Beach, we found loads of pretty, yellow, dead *Strombus gracilior*...took same. When I got home I found they had dead matter inside and even operculums. At El Conchri Beach we found eating clams. I found a broken bottle and carried it all day under my arm, because it had very large "Cup and Saucer" shell attached.

One of the thrills of the trip was finding sand trails and following them to find tegulas, olivellas, olives and many others. Among my finds were *Mitra belcheri*, *Strombus granulatus*, *Turbo funiculosus*, *Fusinus dupetitthouarsi*, *Cancellaria cassidiformis*, *Polinices uber*, *Natica chemnitzii*, *Turritella gonjostoma*, 6 species of *Murex*, 4 of *Conus*, 2 of *Astraea*, *Fasciolaria granosa* and *Eupleura triquetra*.

Getting shells home was painless. I cleaned bivalves easily, of course, and packed them along with dead, uncleaned shells. The live ones I carried to Anne's home where I put them into the freezer, then home to my freezer. I take them out a few at a time. Those under half an inch I put in a small bottle half full of alcohol.

Anne and I are off to somewhere else in Mexico... Why? Because we married the two best guys in the world, Lloyd Gardiner and Bill Hughes, who make it possible. They love us enough to hold us loosely, knowing that when there is another full moon, another low tide coming up, another bend to scout around, and another shell waiting for us to find - off we go.

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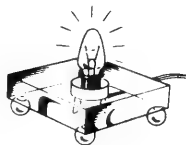
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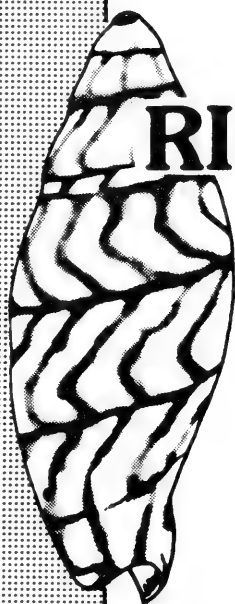
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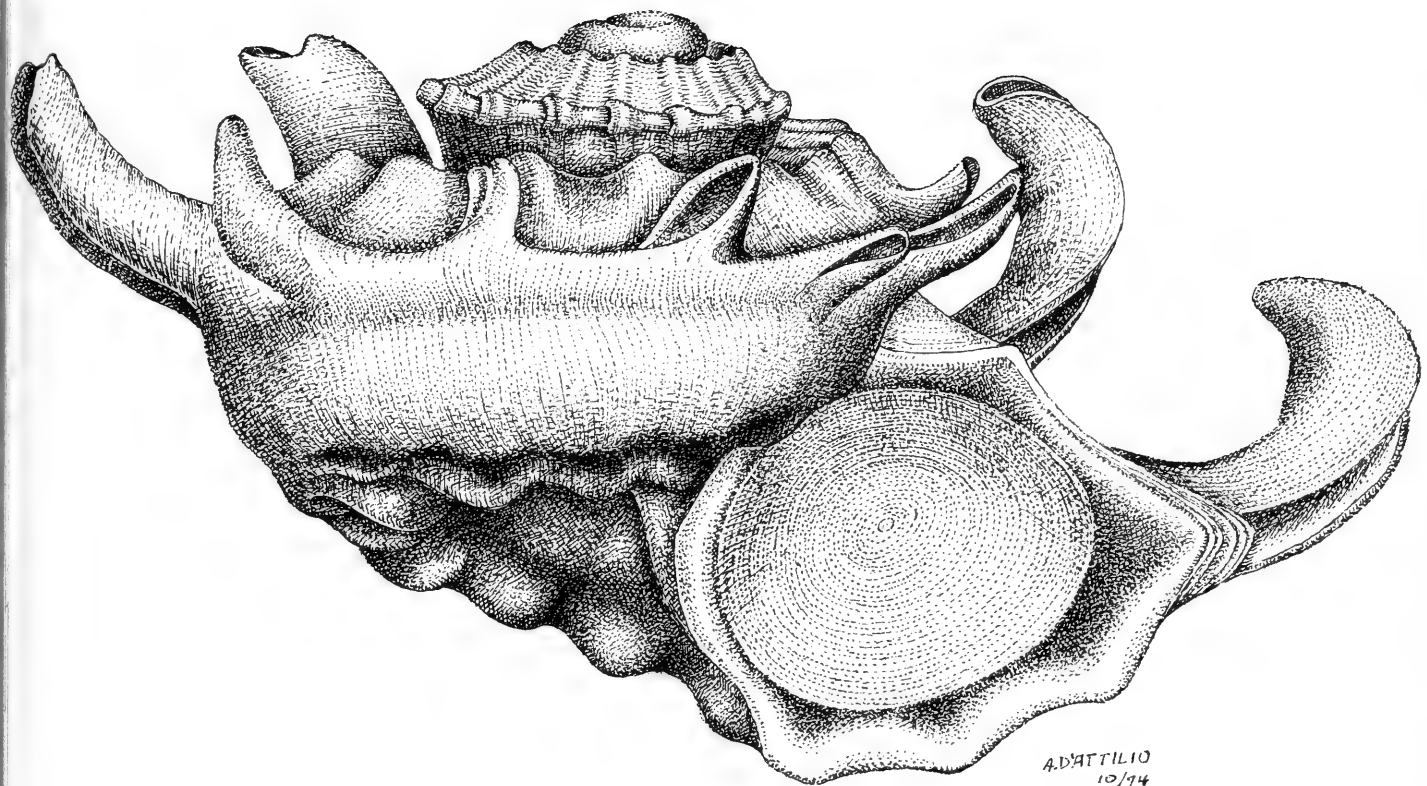
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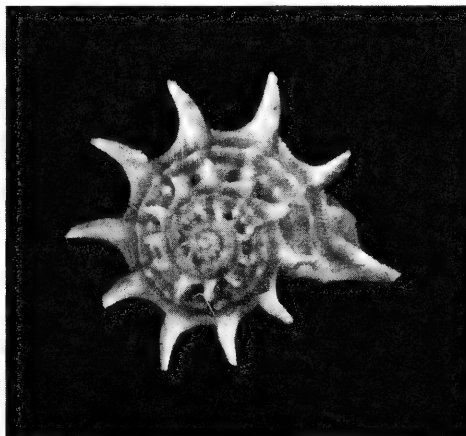
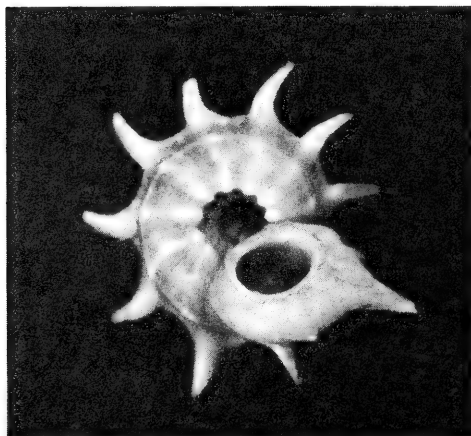
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**COVER PLATE:** We are pleased to present another of the excellent pen and ink sketches of Anthony D'Attilio, this one of the little-known *Macrarenne spectabilospina* Shasky, 1970. This small (ca 10mm high, 14mm diam.) species is rarely dredged in the Gulf of Tehuantepec, western Mexico, in about 150 to 230 ft.

**MYSTERY SHELL:** Can you help identify this unusual shell from deep water off Punta Engaño, Mactan Island, Cebu, in the Philippines?



Our guess is that it is a trochid. The shell, AbS 83-960, is 16mm in its broadest diameter, spine tip to spine tip. The most unusual feature is the thickened, spinose aperture. Concerning last issue's "Mystery Shell" from Kwajalein, the only suggestion we've got so far is "*Latirus*, *Colubraria* or *Cymatidae*" . . . we could buy *Colubraria*. Any ideas as to species?

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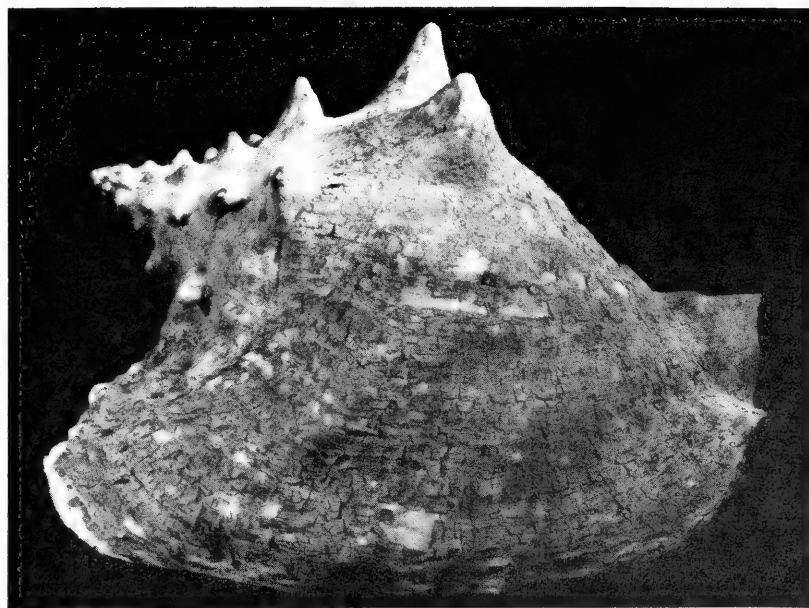


Fig. 1. The "Queen Conch," *Strombus gigas* Linne, a 250mm specimen collected by Foster and Glass in the Florida Keys. Fig. 2 (right). C.O.A. member, Phil Schneider atop conch pile in Bonaire, Netherlands Antilles.

## QUEEN OF THE CARIBBEAN

by PEGGY WILLIAMS

The Queen Conch, *Strombus gigas* Linne, besides being a beautiful shell-maker and prized in shell collections, is the object of the second most important fishery in the Caribbean (behind the Spiny Lobster). As Caribbean peoples, particularly Haitians, settle in increasing numbers in the United States, the demand for imported Conch meat rises while the supply in various exporting countries diminishes through overfishing. In 1978, almost 1¼ million pounds of conch meat was imported through Miami alone.

Conchs have traditionally been fished from small boats put off larger sailing ships. The shells were spotted with a glass-bottomed bucket and pulled aboard with a long-handled hook. Nowadays, outboard engines drive fishermen wearing mask and snorkel to the conch beds where a good diver can gather 600 conchs, given shallow water and a productive area, in 4 hours. However, productive areas are becoming more scarce and fishing is becoming more and more expensive.

*Strombus gigas* lives in warm Caribbean waters from West Palm Beach in Florida to the coast of Venezuela from inches of water to depths of up to 250 feet. Since it eats small algae and epiphytes, it is found on sand bottom, in areas of small or large rocks where the algae grows, but seldom at depths or in areas where plant growth is prohibited by lack of sunlight or turbidity.

Egg masses look like tangled strands of spaghetti, to which grains of sand adhere. The eggs hatch in about 5 days to become veligers, free-swimming larvae that live among and eat the phytoplankton in the rich Caribbean waters. After 12-17 days at sea they settle to the bottom to complete the metamorphosis to bottom-dwelling snails by losing the velar lobes and developing a proboscis with which to eat. At first they spend their time hidden beneath the sand during the day, since they are a tasty snack to almost any predator, but as they grow larger they become bolder, and the largest of the Queens need fear little beyond large hermit crabs, sharks, rays, turtles, and man.

A one-year-old conch is about 3-4½ inches long, and at maturity may be 7-8 inches. It begins growing the flaring lip at about 2½-3 years of age and then generally stops growing. The lip is at first thin and fragile, called "butter lip" by the natives of the Florida Keys



Fig. 3. "Queen Conch" veliger. (Figs. 3-7 were taken at the Rosentiel School of Marine and Atmospheric Sciences of the University of Miami.)

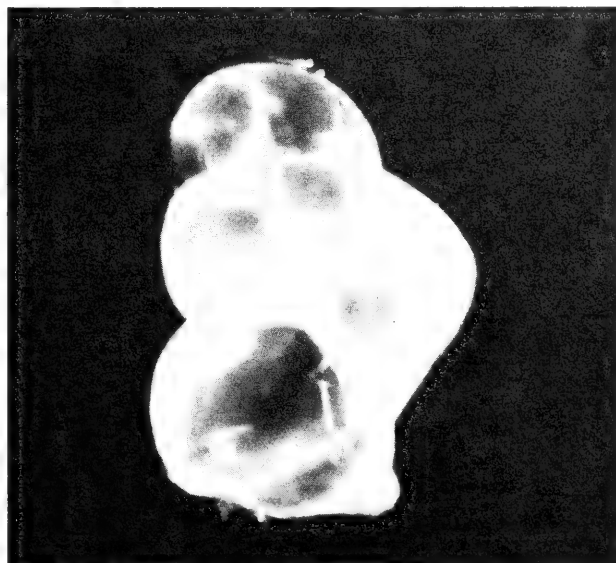


Fig. 4. 18 day old "Queen Conch" veliger.

(themselves called "Conchs"), and as it breaks or wears down or is attacked by boring organisms, the animal adds to its thickness and to that of the rest of the shell. Therefore, the most marketable conchs are those that have just begun to add the flaring lip, while the meat is at its greatest weight compared to the total weight of the shell. This is, however, before the sexual maturity of the animal and contributes to the inefficiency of the fishery. Estimated average maximum age is 6 years.

The Queen Conch occasionally produces pearls, of light-to-deep pink color, when an irritant is introduced between the animal's mantle and the shell. Though high in price because of rarity, they lose their color, just as the shell itself does, with time. Pearls occur in the ratio of one for each 80,000 shells.

Two particular animals have found to have a comensal relationship with *Strombus gigas*: a crab, called the Porcelain crab, and a fish, a species of Cardinalfish called the Conch Fish. Both live within the mantle of the conch, and the fish, especially, cannot live without the mollusk. The conch itself gains no apparent advantage by association with its guests, but neither do they appear to harm it.

*Strombus gigas*, like others of its family, move, not by gliding over the sand like most gastropods, but in a peculiar hopping motion. This is produced by digging the sharp, pointed operculum into the sand and pushing so that the animal, shell and all, is lifted and thrust forward in an awkward, discontinuous motion. This may serve to confuse predators by laying down a broken scent trail. The operculum is otherwise used in a possible defensive motion when the shell is overturned and threatened, but it is useless to close the aperture of the shell.

Also like other stromboids, the eyestalks are long and flexible, tipped by a beautiful "bullseye"-looking eye. The animal is able to

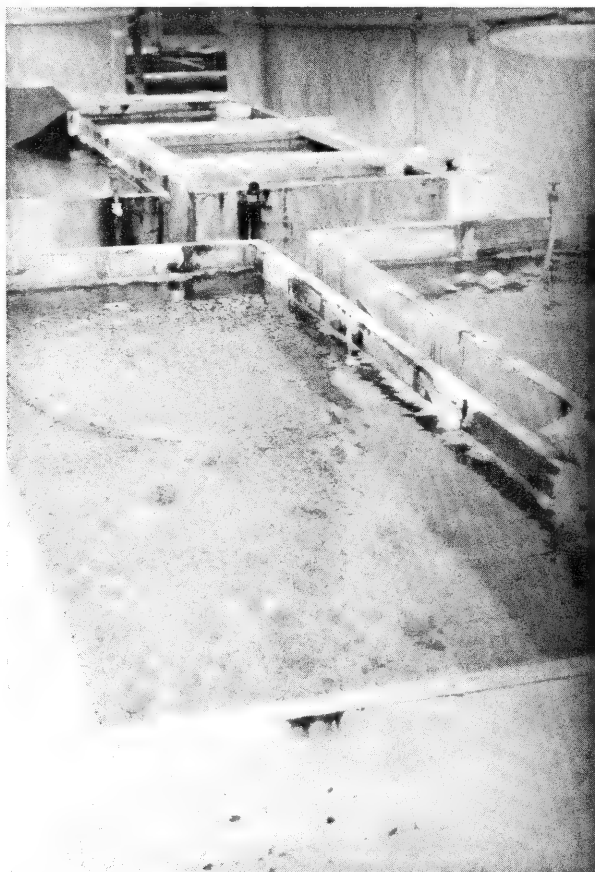


Fig. 5. Outdoor "Queen Conch" nursery of Miami.

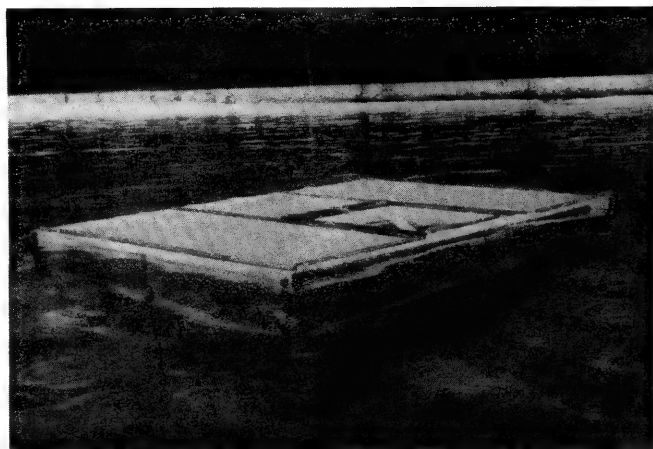


Fig. 6. Floating "Queen Conch" nursery.

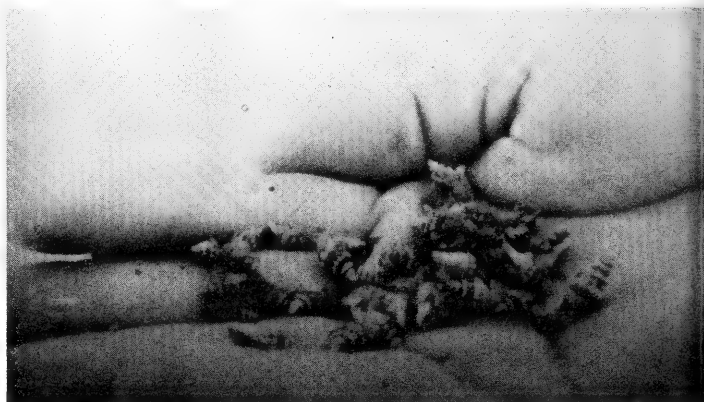


Fig. 7. A handful of 1 month old "Queen Conchs."

extend its eyes beyond the flaring lip without lifting itself off the sand by sticking them out the two convolutions of the lip: one the siphonal canal, and the other the scalloped "stromboid notch". If an eye, thus exposed, is nipped off by a hungry fish, it can be regenerated.

Because of the economic importance of *S. gigas* and its increasing scarcity, there is some interest in artificially rearing the animals, or "conch farming". Drs. Edwin Iversen and Scott Siddall of the University of Miami's Rosenthal School of Marine and Atmospheric Sciences in Miami have been studying the feasibility of conch farming for some years, and, with their students, have successfully raised conchs from the egg through the veliger stage to several inches in length. However, there is great loss from predation when the small animals are introduced into the sea, and costs of rearing them to greater size are too high for economical farming. Nonetheless, their students and associates are continuing research at government-sponsored laboratories in such countries as Mexico, The Netherlands Antilles (Bonaire), the Bahamas, and Puerto Rico. In some of these areas the native fishermen support, at least verbally, the scientists' efforts, and it is hoped the Queen Conch can be made once more abundant in its former fisheries.

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Fig. 1. Show judge, Gary Coovert, awards C.O.A. Grand Trophy to Carol Bodine.

## C.O.A. GRAND TROPHY WINNERS

**Crown Point Shell Show, Indiana, Sept. 24-25, 1983**

Winner: **Carol Bodine**

Title of Display: **Land and Tree Mollusks**

Mrs. Bodine's winning display explained the classification, terminology, physiology and ecology of terrestrial mollusks as well as collecting procedures. This information was accompanied by 20 cases (37 ft.) of worldwide land and tree snails arranged in family and generic order. The display won the duPont Trophy at the 1983 Midwest Regional Shell Show held in Indianapolis as well.

Carol was born with "shell fever." She has been actively collecting shells for over 20 years. She admits to favoring bivalves, land, freshwater and fossil mollusks. She is an active member of the Crown Point Shell Collectors' Study Group where she currently serves as recording secretary.

**Sarasota Shell Show, Florida, Jan. 26-29, 1984**

Winners: **Charles & Violet Hertweck**

Title of Display: **Eocene Fossils**

Fig. 2. Show judge, Dr. Harry Lee, presenting C.O.A. Grand Trophy to Charles and Vi Hertweck.



The display consisted of 4 cases of Eocene fossils of Jackson, Mississippi and 4 cases of Eocene fossils from the Basin of Paris, France.

Charles and Violet Hertweck have collected fossils in Florida for many years, starting while on vacation from St. Louis, MO, and continuing since moving to Florida 12 years ago. They became interested in Eocene fossils and have collected at Town Creek Eocene in Jackson, Mississippi, and trade for fossils from the Paris Basin Eocene and other fossil areas around the world.



Fig. 3. Sue Stephens, C.O.A. Grand Trophy winner at the Fort Myers show. Photo Vi Hertweck.

**Southwest Florida Conchologist Society Show, Fort Myers, FL, Jan 13-15, 1984.**

Winner: **Sue Stephens**

Title of Display: **Philippine Muricidae**

The award winning display consisted of 17 linear feet in 7 cases, arranged by genus with type species indicated, showing both color forms and growth patterns.

Sue Stephens is accomplished in many fields: painting, ceramics, horse-breeding, fashion designing, and, of course, shell collecting and shell illustrating! She did a color center spread and pen and ink end sheets for the 1984 Shell Desk Diary. She also does a series on shell identification in her local Sanibel newspaper, the *Island Reporter*. She was chairman for the 1982 C.O.A. Convention on Sanibel.



Fig. 4. Bea Winner - a Winner!

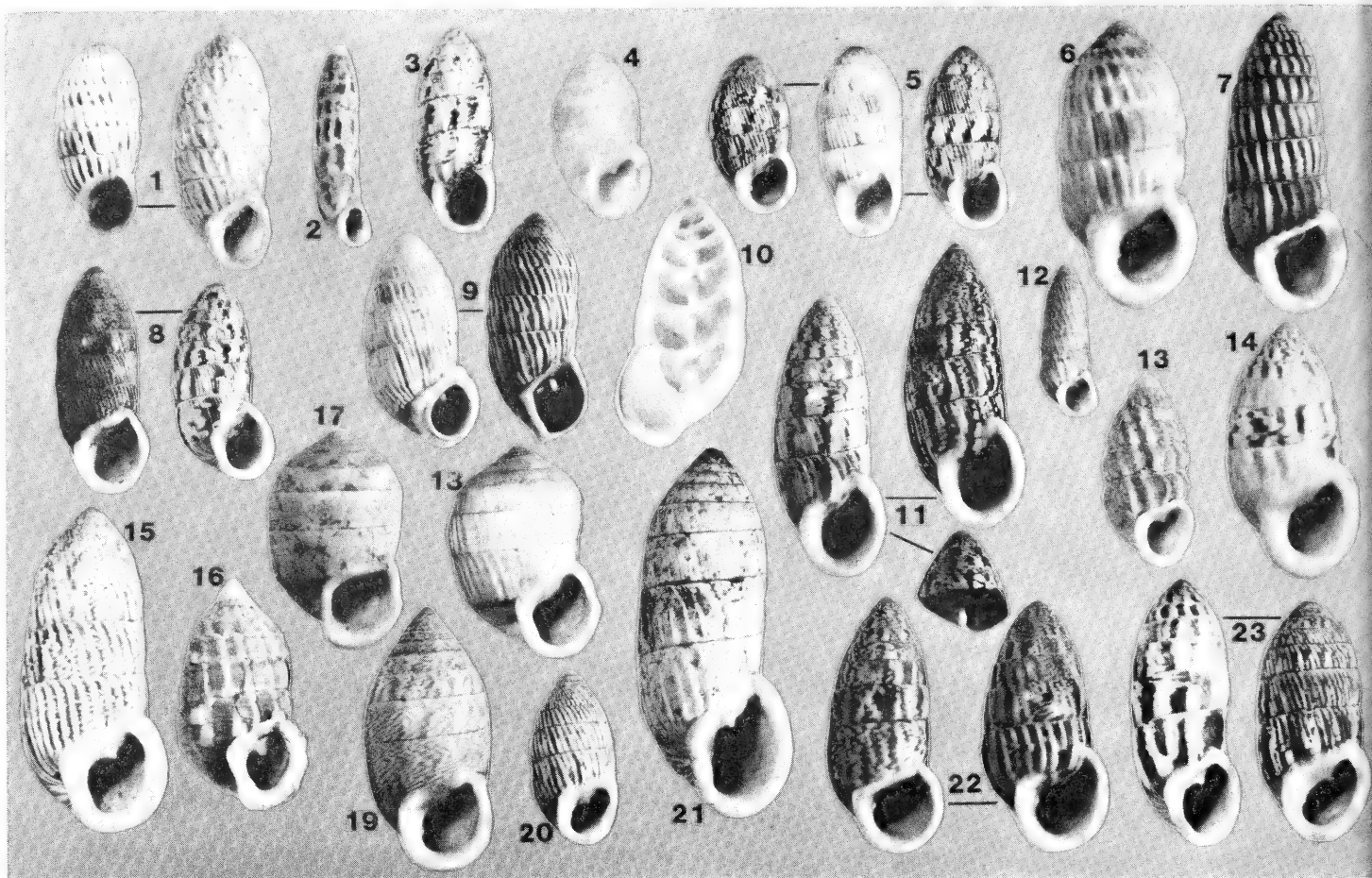
**Palm Beach Shell Show, West Palm Beach, FL, Feb 16-19, 1984**

Winner: **Beatrice Winner**

Title of Display: **Naticidae**

(continued on page 28)





Figs. 1-23. Misc. *Cerion* exhibiting the diversity within the genus and among the individual species. 1) *C. uva* Linne, 1758 - (left) Bonaire, (right) Curacao, Netherland Antilles. 2) *C. pauli* M. Smith, 1943 - Exuma, Bahamas. 3) *C. chrysalis* Ferussac, 1837 - a form called *scripta* Maynard, 1896, Matanzas, Cuba. 4) *C. nudum* Maynard, 1889 - Long Island, Bahamas. 5) *C. striatellum* "Ferussac" Guerin-Meneville, 1829 - Cabo Rojo, Puerto Rico. 6) *C. maynardi* Pilsbry & Vanatta - Abaco Island, Bahamas. 7) *C. sculptum marielinum* "Torre" Pilsbry, 1927 - Mariel, Pinar del Rio, Cuba. 8) *C. abacoense bednalli* Pilsbry & Vanatta, 1896 - Great Abaco, Island, Bahamas. 9) *C. melanostomum* Clench, 1934 - Mortimers, South Long Island, Bahamas. 10) Cross-section of a *Cerion* showing the internal sculpture. 11) *C. lewisi* Clench, 1961 - a juvenile specimen is illustrated - Providenciales, Turk & Caicos. 12) *C. nana* Maynard, 1889 - Little Cayman, Cayman Islands. 13) *C. (Umbonis) scalarinum* Pfeiffer & Gundlach, 1860 - Gibara, Cuba. 14) *C. fernandina* Clench, 1937 - Acklins Island, Bahamas. 15) *C. jibacoense* Torre - Havana, Cuba. 16) *C. (Umbonis) stevensoni* Dall, 1900 - Long Island, Bahamas. 17) *C. aguayoi* Torre & Clench, 1932 - Gibara, Cuba. 18) *C. dimidiatum* Pfeiffer, 1847 (syn. *proteus*) - Gibara, Cuba. 19) *C. torrei moralesi* Clench & Aguayo, 1951 - Banes, Oriente, Cuba. 20) *C. ramsdeni* "Torre" Welch, 1934 - Playa Rincon, Oriente, Cuba. 21) *C. infandum* "Shuttleworth" Poey, 1858 - Matanzas, Cuba. 22) *C. sculptum* Poey, 1858 - Garden Key, Dry Tortugas, Florida Keys (introduced from Cuba by Pilsbry, and have established a colony over the years - see figure 7). 23) *C. eximeum* Maynard, 1894 - (left) Tennant Hill, Cat Island, Bahamas; (right) Winding Bay, Cat Island, Bahamas; showing variation among one species on one island... nomenclature follows Clench (1957). All shells approx. X 1/3. Photographs by Richard L. Goldberg.

## THE GENUS CERION, AN UNUSUAL GROUP OF WEST INDIAN LAND MOLLUSKS

by RICHARD L. GOLDBERG

Anyone who has beachcombed the sandy shores of the Bahamas, Greater Antilles, or maybe the Cayman Islands, have most likely found an unusual shell resembling a peanut. And no matter how diligently you searched your literature, you were unable to identify the shell. The reason for this is that your peanut-like shells are actually land shells, and will not be found in American Seashells or other works including Caribbean marine mollusks.

The genus *Cerion* Roding, 1798, is restricted to the West Indies — here including the Florida Keys, Greater Antilles from Cuba to the Virgin Islands (but not Jamaica), Bahama Archipelago, Cayman Islands, and the Netherland Antilles (Aruba, Bonaire and Curacao). The three centers of "speciation" of the genus are Cuba, the Bahamas, and the Cayman Islands. Hispaniola, Puerto Rico and the Virgin Islands have very few populations, and, in the latter two, only occur on the south coasts, and are closely related. The distributional jump from the Greater Antilles, down to the Netherland Antilles is quite unusual. *Cerions* are not represented at all on the islands inbetween; a distance of over 500 miles. The species represented at this southern-most distribution point is *Cerion uva*

(Linne, 1758), the type of the genus, and the first species of this group to be described under the genus *Turbo*.

The family *Cerionidae* contains the single genus *Cerion*, with a few subgenera and many described species and subspecies. Clench (1957) states, "probably less than 20 percent of the names now extant actually apply to valid species or subspecies." The problems surrounding the *Cerion* nomenclature stem from the fact that characteristics generally held stable in most other groups of mollusks, are, in this group, wildly rampant. Early researchers of this genus were not aware of the remarkable "plasticity" of *Cerion*, and it was found that nature is isolating or mixing small elements of *Cerion* populations as effectively as man has done with domesticated plants and animals.

*Cerion* comes from the Greek word *kerion*, or honey-comb, as the spire resembles an old-fashioned bee-hive. Among one species there can be a remarkable range of individual and local variation. A species can exhibit both smooth and ribbed sculpture (see figure 23), color can be both pure white or heavily brown-mottled, and adult size is as variable as in the marine genus *Cypraea*. Some of the

sub-genera erected in the genus include *Strophlops* Dall, 1894; *Diacerion* Dall, 1894; *Eostrophia* Dall, 1890 (a fossil lower Miocene group); and *Umbois* Maynard, 1896, the most distinct subgenus of the *Cerion*, with its coarse sculpture. The latter subgenus only occurs on the north coast of Cuba and a few islands in the Bahama Archipelago.

The habitats of *Cerion* are quite precarious, living on or among bushes, grass or other vegetation, especially the sea grape (see figure 24), along sea coasts on the upper strand line usually beyond the reach of the ocean's spray. It is sometimes found, though, a half mile or so inland. Populations are distinctly patchy, sometimes in large or small colonies, but in some cases a colony can extend without interruptions for several miles. A hurricane can devastate a colony or totally wipe it out. The beachcomber can find evidence of this by the vast numbers of empty shells on a beach after a severe storm or hurricane. This is one of the major ways *Cerion* are distributed to other locations, being carried by flotsam to adjacent islands or distant places, where, it is hypothesized, the new colony would diverge from the same species on another island or locality (see figure 22).

*Cerion* are inactive by day, and move about, feeding at night and in rainy weather. When finding a colony, you will sometimes see thousands of them hanging spire-down on the low branches and grass. It is a rather bizarre sight. Some species are endemic to a particular island, especially in the Bahama Archipelago, and others are wide spread over great distances — such as *Cerion stratellum* "Ferussac" Guérin-Meneville, 1829 (see figure 5), found in the Virgin Islands, Puerto Rico, and Hispaniola. Unfortunately, early authors placed names on various geographical forms, because they varied from the nominal species.

To amass a scientifically important collection of *Cerion* today would be next to impossible. More than half of the validly named species are found in Cuba. And it would mean traveling to each and every land mass where *Cerion* are found, even the smallest and most remote islands. Between 1889 and 1924, Charles Johnson Maynard, undertook such a project, publishing and describing a collection of over 200,000 specimens collected by him over a 50 year period. Even though marred by inaccuracies, it was the first major effort to organize this confusing group. Previous works by Kuster in the Conchylien Cabinet (1841-50), and Sowerby in Conchologica Iconica (1875-76) just listed the then known species without any serious attempts to group them into natural assemblages. Pilsbry in Manual of Conchology (1901-02) made major strides in pulling together what had already been published with his own research. Dall, Bartsch, Aguayo, Sanchez Roig, Jaume, de la Torre, and Clench did work on the Cuban species. Many names were added to the *uva* complex (see figure 1) of the Netherland Antilles by H.B. Baker in his monograph of the Land & Freshwater Mollusks of the Dutch Leeward Islands (1924). Many amateur collectors after this period have added greatly to the knowledge of the *Cerion* during their trips to remote and little traveled islands in the Bahamas.

It cannot be stressed enough, the importance of pinpoint accurate locality data. As an example, Maynard found in one of his trips to the Bahamas, that the same species of *Cerion* living on either side of a road cut through the low scrub, varied considerably in the sculpture of the shell! With well localized collections of *Cerion* from diverse localities, researchers will be better able to confirm on speciation of individual species in the genus.

This is by no means an authoritative or complete history of the *Cerion*, but hopefully has given you an appreciation of these oddly shaped land shells.



Figure 24) *Cerion lewisi* Clench, 1961, estivating on a branch of sea grape along the Bight, Providenciales, Turks & Caicos. Photo by R.L. Goldberg.

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\$1.00-\$2.50: \$0.25; \$2.50-\$5.00: \$0.50; \$5.00-\$10.00: \$1.00; over \$10.00: \$2.00
- Any bid submitted at a value other than a normal bidding increment will be rounded down to the next lower increment. For example a bid of \$2.65 will be reduced to \$2.50 or a bid of \$12.75 will be reduced to \$12.00.
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- A shipping charge of \$0.75 will be made for a single lot or \$1.50 for multiple lots.
- Please, no overseas bids. The shipping cost would be excessive.
- In the case of duplicate bids, the first received shall have priority.
- All bids must be by lot number.
- All bids must be mailed no later than July 15, 1984

Lot	Species	Condition	Estimated	Value
1.	<i>Murex alabaster</i>	F +	.....	\$40.00
2.	<i>Murex serratospinosus</i>	w/o 79mm F +	.....	17.50
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4.	One each: <i>Murex brunneus</i> , w/o 69mm F +; <i>Murex haustellum</i> , w/o 82mm F +; <i>Murex (Vitularia) salabrose</i> , F, 60mm	.....	.....	8.00
5.	<i>Forreria belcheri</i> , 78mm F	.....	.....	25.00
6.	<i>Mitra regina</i> , 64mm, very pretty G	.....	.....	12.00
7.	<i>Mitra melongena</i> G	.....	.....	6.50
8.	Lot: 2 <i>Mitra gruneria</i> G; 1 <i>Mitra ferruginea</i> G; 2 <i>Mitra pesolina</i> G-	.....	.....	7.50
9.	<i>Cypraea pulchella</i> , 29.4mm G	.....	.....	10.00
10.	<i>Cypraea bregeriana</i> , 25.5mm G	.....	.....	10.00
11.	<i>Cypraea childreni</i> , 12.0mm G-	.....	.....	10.00
12.	<i>Cypraea eglantina niger</i> , 48.4mm, nice G	.....	.....	50.00
13.	<i>Cypraea serrulifera</i> , 9.3mm G	.....	.....	20.00
14.	One each: <i>Cypraea coxeni</i> G; <i>Cypraea arabica</i> G; <i>Cypraea histrio</i> G; <i>Cypraea caurica</i> G; <i>Cypraea lamarcki</i> G; <i>Cypraea maculifera</i> G; <i>Cypraea turdus</i> G; <i>Cypraea cribraria</i> G	.....	.....	10.00
15.	One each: <i>Cypraea scurra</i> G; <i>Cypraea arabica</i> G; <i>Cypraea histrio</i> G; <i>Cypraea caurica</i> G; <i>Cypraea lamarcki</i> G; <i>Cypraea irrorata</i> G; <i>Cypraea zebra</i> F +	.....	.....	12.50
16.	One each: <i>Cypraea stolidia</i> , 34.4mm G; <i>Cypraea zonaria</i> , 32.4mm G	.....	.....	12.50
17.	One each: <i>Strombus listeri</i> , w/o G-; <i>Strombus pipus</i> G-; <i>Strombus vittatus</i> G-; <i>Strombus pugilis</i> , w/o G-	.....	.....	15.00
18.	<i>Tudicala spirillus</i> , w/o G	.....	.....	7.00
19.	<i>Tudicala spirillus</i> , w/o G	.....	.....	7.00
20.	<i>Conus alabaster</i> , w/o 37mm G	.....	.....	15.00
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22.	<i>Conus retifer</i> , 32mm, minor lip chips F +	.....	.....	10.00
23.	<i>Conus malaccanus</i> , w/o 53mm G-	.....	.....	12.00
24.	<i>Conus amadis</i> , w/o 90mm G	.....	.....	8.00
25.	<i>Conus princeps</i> , w/o 61mm, minor growth line F +	.....	.....	6.00
26.	<i>Conus fragilissimus</i> , w/o 33mm G	.....	.....	.....
27.	One each: <i>Conus betulinus</i> , w/o 85mm G-; <i>Conus araneosus</i> , w/o 64mm G; <i>Conus figulinus</i> , w/o 67mm F +; <i>Conus inscriptus</i> , w/o 47mm G-	.....	.....	12.50
28.	One each: <i>Conus betulinus</i> , w/o 85mm G-; <i>Conus araneosus</i> , w/o 64mm G; <i>Conus figulinus</i> , w/o 67mm F +; <i>Conus inscriptus</i> , w/o 47mm G-	.....	.....	12.50
29.	One each: <i>Conus biliosus</i> , w/o 34mm G-; <i>Conus tulipa</i> , 66mm G; <i>Conus patricus</i> , 57mm rough lip F +, <i>Conus flavidus</i> , 44mm lip chips F; <i>Conus regius</i> , 26mm G-	.....	.....	10.00
30.	One each: <i>Conus monile</i> , w/o 54mm G; <i>Conus consors</i> , 47mm G-; <i>Conus gumeensus</i> , 40mm, chipped lip F	.....	.....	9.00
31.	<i>Voluta molleeri</i> F +	.....	.....	10.00
32.	<i>Voluta damonii</i> , rough lip F +	.....	.....	12.50
33.	One each: <i>Voluta pulchra</i> G; <i>Voluta lapponica</i> , w/o G	.....	.....	10.00
34.	One each: <i>Voluta cancellata</i> G-; <i>Voluta lapponica</i> , w/o G	.....	.....	10.00
35.	One each: <i>Bursa spinosa</i> , w/o; <i>Bursa rana</i> , w/o; <i>Oliva miniacea</i> ; <i>Olivancilaria gibbosa</i> ; <i>Babylonia spirata</i> , w/o; <i>Harpa davidus</i>	.....	.....	10.00
36.	One each: <i>Bursa spinosa</i> , w/o; <i>Bursa rana</i> , w/o; <i>Oliva miniacea</i> ; <i>Olivancilaria gibbosa</i> ; <i>Babylonia spirata</i> , w/o; <i>Harpa davidus</i>	.....	.....	10.00
37.	One each: <i>Tridacna crocea</i> ; <i>Xenophora conchyliophora</i> ; <i>Callista erycina</i> ; <i>Fusinus colus</i> , w/o; <i>Cymatium pileare</i> ; <i>Clavatula muricata</i>	.....	.....	11.00
38.	One each: <i>Tridacna squamosa</i> ; <i>Xenophora conchyliophora</i> ; <i>Callista erycina</i> ; <i>Fusinus colus</i> , w/o; <i>Cymatium cingulatum</i> ; <i>Siphonochelus signum lotz</i>	.....	.....	11.00
39.	One each: <i>Terebra myuros</i> , w/o; <i>Marginella persicula</i> ; <i>Calliostoma javanicum</i> ; <i>Natica marochiensis</i> ; <i>Haliotis lamellosa</i> ; <i>Olivancilaria gibbosa</i> ; <i>Phalium bisculcatum</i> ; <i>Cypraea arabica</i>	.....	.....	10.00
40.	(This is a real can of worms?) <i>Serpulobris roussaei</i> - a worm casing cluster on stick. This was somewhat damaged in shipment - very interesting.	.....	.....	.....



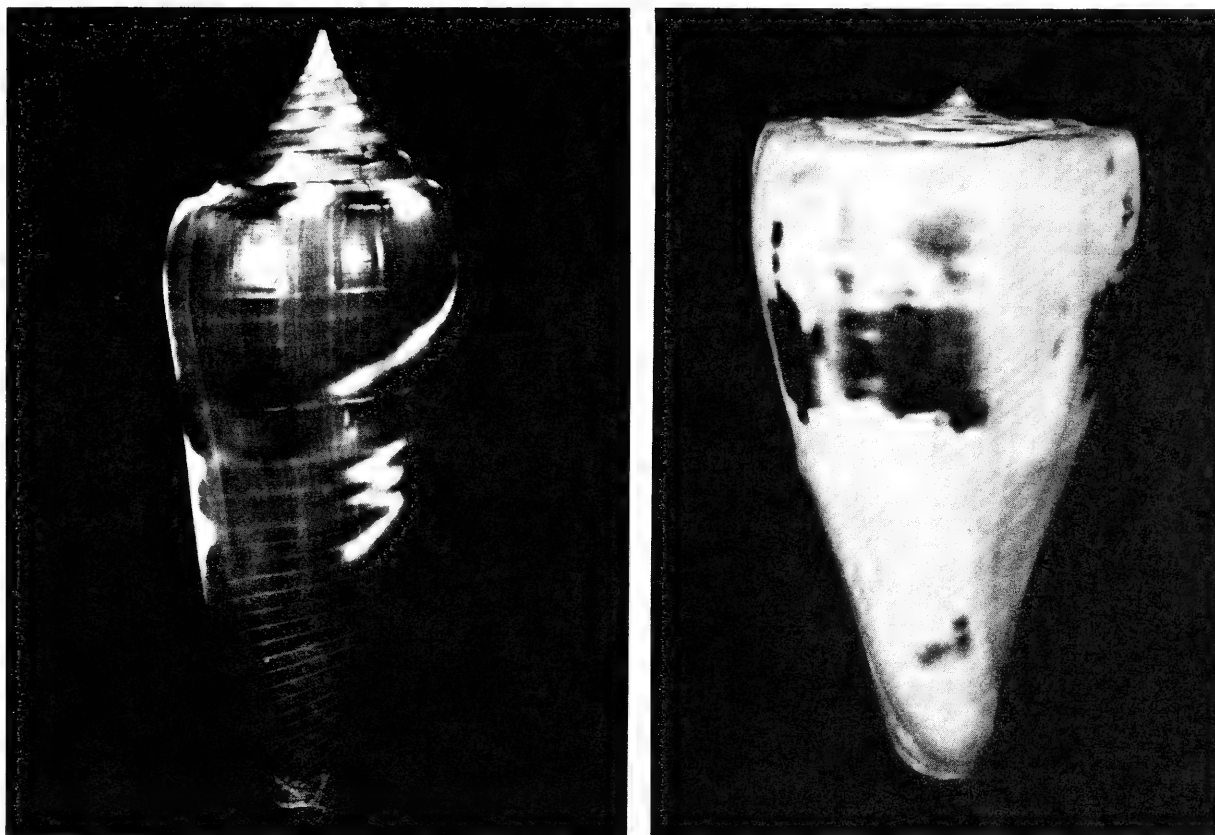


Fig. 1. *Conus colorovariegatus* Kosuge, a 67.5mm specimen, AbS 84-198, collected in deep water with tangle nets off Balut Island, Davao. Fig. 2 (right). *Conus lenavati* da Motta & Röckel, a 59.5mm specimen, AbS 84-199, from Mactan Island. The shell is white with brown blotches and a yellowish orange cast.

## NEW PHILIPPINE CONES

by R. FOSTER & C. GLASS

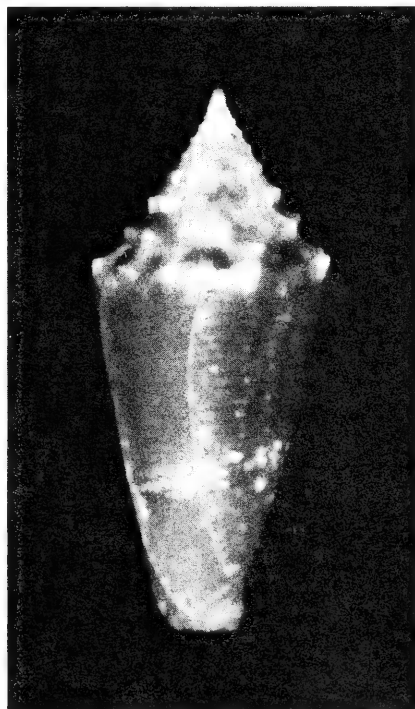
Among the interesting new cones to have been described in recent years are the three illustrated on this page, all from the Philippines: *Conus colorovariegatus* Kosuge, 1981, *Conus lenavati* da Motta & Röckel, 1982, and *Conus polongimarumai* Kosuge, 1980.

*Conus colorovariegatus* is quite elegant (and quite expensive!). It is very similar in shape to *Conus neptunus* and it has been suggested that it is a color variant of that species. The base color is a rich, chestnut brown with irregular, triangular and zig-zag white markings. The type locality is given as Bohol.

*Conus lenavati* is quite similar in color and markings to *Conus tribblei* but differs somewhat in shape and spire structure. It was described from Punta Engaño, Mactan Island, Cebu, in *Publicacoes occasionais da Sociedade Portuguesa de Malacologia*.

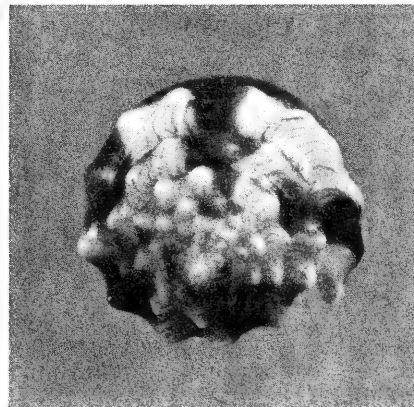
*Conus polongimarumai* is quite distinct and unusual for a cone. The prominently nodulose shoulder is reminiscent of *Conus chiangi*. The type locality is also given as Punta Engaño, Mactan Island, Cebu. It was named for Crispulo (nick-

Fig. 3. *Conus polongimarumai* Kosuge, a 22mm specimen, AbS 84-185, purchased from Crispulo "Polongi" Mahusay in Punta Engaño.



name: "Polongi") Mahusay, a Punta Engaño shell dealer, and, apparently, Mr. Suzuki of the Maruma Shell Co. Both of Kosuge's new species were described in the *Bulletin of the Institute of Malacology, Tokyo*.

Fig. 4. Close-up of the spire of *Conus polongimarumai*, the shell pictured in fig. 3. Note the unusual, dark, curved lines designating the anal notch on the spire above the shoulder of each whorl and the coronations as seen from above.





## TAMPA BAY SHELLS

by ROBERT LIPE

When you come to the 12th annual COA Convention at St. Petersburg Beach, Florida, June 27-30, undoubtedly you'll want to do some shelling. In fact, a special field trip has been planned for shallow water shelling at low tide in nearby Tampa Bay...a perfect place for swimming, wading and even snorkeling. To whet your shelling appetite, several St. Petersburg Shell Club members and I have compiled a list of the shells in our local waters. I have used the numbers in the second edition of R. Tucker Abbott's *American Sea Shells*, so if you have that book, you may have a sneak preview of what Tampa Bay has in store for you!

Many of these shells can be collected by wading or snorkeling; others are only a few millimeters in size and some type of screening process is needed to collect them. Plan to bring the following list along with you for the special expedition; see how many specimens you discover and check them off. And, of course, our local members will be on hand to offer our assistance in identification, too.

All of us at the St. Petersburg Shell Club are looking forward to seeing you at the field trip and all the other fascinating events planned for convention.

### CHECK LIST OF SHALLOW WATER SHELLS OF THE TAMPA BAY AREA

From natural habitat only, beach shells not included.

#### UNIVALVES

- |       |   |      |   |
|-------|---|------|---|
| 3887  | <i>Acteon punctostriatus</i> (C.B. Adams, 1840)       | 4092 | <i>Detracia bullaoides</i> (Montagu, 1808)          |
| 3937  | <i>Acteocina canaliculata</i> (Say, 1822)             | 88   | <i>Diodora cayenensis</i> (Lamarck, 1822)           |
| 2053  | <i>Anachis semiplicata</i> Stearns, 1873              | 1037 | <i>Diastoma varium</i> (Pfeiffer, 1840)             |
| 2053a | <i>Anachis similis</i> Ravenel, 1861                  | 1229 | <i>Epitonium humphreysi</i> (Kiener, 1838)          |
| 2055a | <i>Anachis iontha</i> Ravenel, 1861 *                 | 1230 | <i>Epitonium angulatum</i> (Say, 1830)              |
| 2056  | <i>Anachis obesa</i> (C.B. Adams, 1845)               | 1240 | <i>Epitonium rupicola</i> (Kurtz, 1860) *           |
| 990   | <i>Batillaria minima</i> (Gmelin, 1791)               | 1618 | <i>Erato maugeriae</i> Gray, 1832 *                 |
| 4000a | <i>Bulla striata occidentalis</i> (A. Adams, 1850)    | 1960 | <i>Eupleura sulcidentata</i> Dall, 1890             |
| 2444  | <i>Busycon contrarium</i> (Conrad, 1840)              | 1953 | <i>Favartia cellulosa</i> (Conrad, 1846)            |
| 2451  | <i>Busycon spiratum pyruloides</i> (Say, 1822)        | 2500 | <i>Fasciolaria tulipa</i> (Linne, 1758)             |
| 313   | <i>Calliostoma jujubinum tampaense</i> (Conrad, 1846) | 2502 | <i>Fasciolaria lilium hunteria</i> (G. Perry, 1811) |
| 895   | <i>Caecum nitidum</i> Stimpson, 1851                  | 2774 | <i>Granulina ovuliformis</i> (Orbigny, 1841)        |
| 1965  | <i>Calotrophon ostrearum</i> (Conrad, 1846) *         | 4019 | <i>Haminoea antillarum</i> (Orbigny, 1841)          |
| 2413  | <i>Cantharus multangulus</i> (Philippi, 1848)         | 4018 | <i>Haminoea succinea</i> (Conrad, 1846)             |
| 986   | <i>Cerithidea scalariformis</i> (Say, 1825)           | 2759 | <i>Hyalina avenacea</i> (Deshayes, 1844)            |
| 980   | <i>Cerithidea costata</i> (daCosta, 1778)             | 2758 | <i>Hyalina veliei</i> (Pilsbry, 1896)               |
| 1050  | <i>Cerithiopsis emersoni</i> (C.B. Adams, 1838)       | 3243 | <i>Kurtziella atrostyle</i> (Tryon, 1884) *         |
| 1048  | <i>Cerithiopsis greeni</i> (C.B. Adams, 1839) *       |      |   |
| 3023  | <i>Cerodrillia thea</i> (Dall, 1883) *                |      |   |
| 992   | <i>Cerithium atratum</i> (Born, 1778)                 |      |   |
| 993   | <i>Cerithium muscarum</i> Say, 1832                   |      |   |
| 998   | <i>Cerithium lutosum</i> Menke, 1828                  |      |   |
| 2045  | <i>Columbella rusticoides</i> Heilprin, 1887 *        |      |   |
| 2783  | <i>Conus floridanus</i> Gabb, 1868                    |      |   |
| 2784  | <i>Conus floridanus floridensis</i> Sowerby, 1870     |      |   |
| 2793  | <i>Conus jaspideus stearnsi</i> Conrad, 1869          |      |   |
| 3067  | <i>Crassipira leucocyma</i> Dall, 1883                |      |   |
| 1563  | <i>Crepidula aculeata</i> (Gmelin, 1791)              |      |   |
| 1557  | <i>Crepidula fornicata</i> (Linne, 1758)              |      |   |
| 1558  | <i>Crepidula maculosa</i> Conrad, 1846                |      |   |
| 1559  | <i>Crepidula convexa</i> Say, 1822                    |      |   |
| 1570  | <i>Crepidula plana</i> Say, 1822                      |      |   |

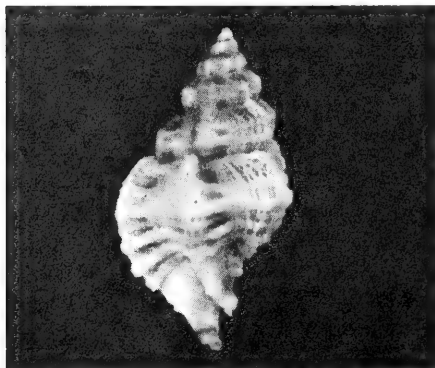


Fig. 1. *Favartia cellulosa* (Conrad, 1846). All shells were collected by Elaine Phillips of Florida by the Tampa Bay Skyway; photos by The Abbey, Specimen Shells.

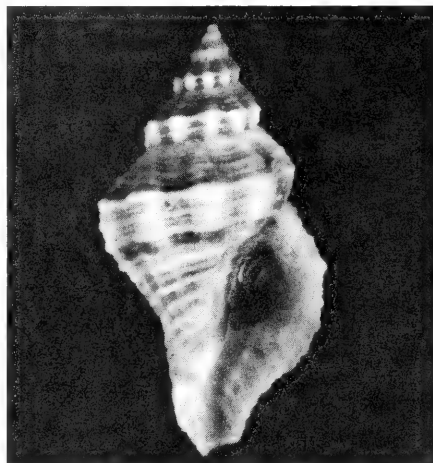


Fig. 2. *Urosalpinx perrugata* (Conrad, 1846)

- |      |   |
|------|---|
| 1047 | <i>Litiopa melanostoma</i> Rang, 1829           |
| 563  | <i>Littorina angulifera</i> (Lamarck, 1822)     |
| 564  | <i>Littorina irrorata</i> (Say, 1822)           |
| 559  | <i>Littorina lineolata</i> Orbigny, 1840        |
| 3160 | <i>Mangelia stellata</i> (Stearns, 1872) *      |
| 2730 | <i>Marginella apicina</i> Menke, 1828           |
| 2721 | <i>Marginella aureocincta</i> Stearns, 1872     |
| 2720 | <i>Marginella eburneola</i> Conrad, 1834        |
| 2747 | <i>Marginella lavalleana</i> Orbigny, 1842      |
| 4087 | <i>Melampus bidentatus</i> Say, 1822            |
| 4088 | <i>Melampus coffeus</i> (Linne, 1758)           |
| 1336 | <i>Melanella intermedia</i> (Cantraine, 1835)   |
| 1337 | <i>Melanella conoidea</i> Kurtz & Stimson, 1851 |
| 2432 | <i>Melongenella corona</i> (Gmelin, 1791)       |
| 2114 | <i>Mitrella lunata</i> (Say, 1826)              |
| 976  | <i>Modulus modiolus</i> (Linne, 1758)           |

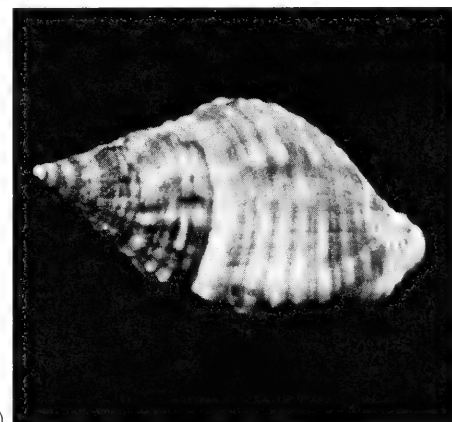


Fig. 3. *Pisania tinctoria* (Conrad, 1846).

- |       |  |
|-------|--|
| 1838  | <i>Murex florifer dilectus</i> A. Adams, 1855  |
| 1828  | <i>Murex pomum</i> Gmelin, 1791                |
| 2458  | <i>Nassarius albus</i> (Say, 1826)             |
| 2458a | <i>Nassarius consensus</i> (Ravenel, 1861)     |
| 2453  | <i>Nassarius vibex</i> (Say, 1822)             |
| 1719  | <i>Natica pusilla</i> Say, 1822                |
| 528   | <i>Neritina reclinata</i> (Say, 1822)          |
| 3522  | <i>Odostomia impressa</i> (Say, 1821)          |
| 3487  | <i>Odostomia seminuda</i> (C.B. Adams, 1837)   |
| 2537  | <i>Oliva sayana</i> Ravenel, 1834              |
| 2554  | <i>Olivella adelae</i> Olsson, 1956            |
| 2555  | <i>Olivella floralia</i> (Duclos, 1853)        |
| 2559  | <i>Olivella pusilla</i> (Marrat, 1871)         |
| 2578  | <i>Olivella perplexa</i> Olsson, 1956          |
|       | - <i>Olivella inusia</i> Sowerby               |
| 2411  | <i>Pisania tinctoria</i> (Conrad, 1846)        |
| 1677  | <i>Polinices duplicatus</i> (Say, 1822)        |
| 2506  | <i>Pleuroploca gigantea</i> (Kiener, 1840)     |
| 2931  | <i>Pyrgospira ostrearum</i> (Stearns, 1872)    |
| 3304  | <i>Pyrgocythara plicosa</i> (C.B. Adams, 1850) |
| 3462  | <i>Pyramidella crenulata</i> (Holmes, 1859)    |



Fig. 4. *Marginella apicina* Menke, 1828.

- |      |  |
|------|--|
| 680  | <i>Rissoina catesbyana</i> Orbigny, 1842         |
| 3648 | <i>Sayella fusca</i> (C.B. Adams, 1839)          |
| 1126 | <i>Seila adamsi</i> (H.C. Lea, 1845)             |
| 1580 | <i>Strombus alatus</i> Gmelin, 1791              |
| 1705 | <i>Sinum perspicuum</i> (Say, 1831)              |
| 1893 | <i>Thais haemastoma floridana</i> (Conrad, 1837) |
| 2634 | <i>Thala foveata</i> (Sowerby, 1874) *           |
| 2839 | <i>Terebra concava</i> Say, 1822                 |

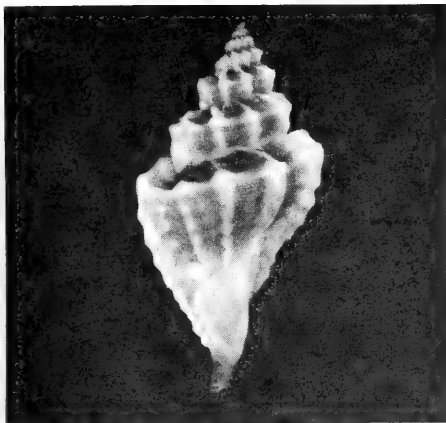


Fig. 5. *Eupleura sulcidentata* Dall, 1890.

- 2836 *Terebra dislocata* (Say, 1822)
- 2842 *Terebra protexta* Conrad, 1845
- 719 *Truncatella caribaeensis* Reeve, 1842
- 718 *Truncatella pulchella* Pfeiffer, 1839
- 1131 *Triphora nigrocincta* (C.B. Adams, 1839) \*
- 474 *Turbo castanea* Gmelin, 1791 \*
- 3755 *Turbonilla conradi* Bush, 1899
- 3683 *Turbonilla dalli* Bush, 1899
- 3682 *Turbonilla hemphilli* Bush, 1899
- 3754 *Turbonilla interrupta* (Totten, 1835)
- 1884 *Urosalpinx perrugata* (Conrad, 1846)
- 1885 *Urosalpinx tampaensis* (Conrad, 1846) \*
- 919 *Vermicularia knorri* (Deshayes, 1843)
- 920 *Vermicularia fargoi* Olsson, 1951
- 2621 *Vexillum hanleyi* (Dohrn, 1862) \*
- 687 *Zebina browniana* (Orbigny, 1842)

CHITONS

- 4698 *Chaetopleura apiculata* (Say, 1830)
- 4757 *Acanthochitona pygmaea* (Pilsbry, 1893)

BIVALVES

- 5803 *Abra Aequalis* (Say, 1822)
- 5097 *Amygdalum papyrium* (Conrad, 1846)
- 4975 *Anadara notabilis* (Roding, 1798)
- 4977 *Anadara transversa* (Say, 1822)
- 5232 *Anomia simplex* Orbigny, 1842
- 5887 *Anomalocardia auberiana* (Orbigny, 1842)

- 4998 *Arcopsis adamsi* (Dall, 1886) \*
- 5195 *Argopecten irradians concentricus* (Say, 1822)
- 5111 *Atrina rigida* (Lightfoot, 1786)
- 6031 *Barnea truncata* (Say, 1822)
- 5044 *Brachidontes exustus* (Linne, 1767)
- 5478 *Carditamera floridana* Conrad, 1838
- 5865 *Chione cancellata* (Linne, 1767)
- 5883 *Chione grus* (Holmes, 1858)
- 5274 *Crassostrea virginica* (Gmelin, 1791)
- 5540 *Crassinella lumulata* (Conrad, 1834)
- 6002 *Corbula swiftiana* C.B. Adams, 1852
- 5798 *Cumingia tellinoides* (Conrad, 1831)

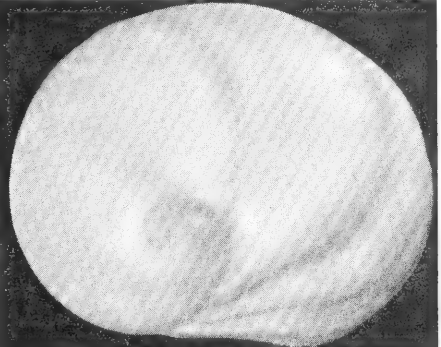


Fig. 6. *Sinum perspectivum* (Say, 1831).

- 5965 *Cyclinella tenuis* (Recluz, 1852)
- 6034 *Cyrtopleura costata* (Linne, 1758)
- 5581 *Dinocardium robustum vanhyningi* Cl. & Sm. 1944
- 5753 *Donax variabilis* Say, 1822
- 5960 *Dosinia discus* (Reeve, 1850)
- 5628 *Ensis minor* Dall, 1900
- 5106 *Genkinsia dimissa granosissima* (Sowerby, 1914)
- 5048 *Ischadium recurvum* (Rafinesque, 1820)
- 5124 *Isognomon alatus* (Gmelin, 1791)
- 5573 *Laevicardium mortoni* (Conrad, 1830)
- 5306 *Lucina nassula* (Conrad, 1846)
- 5243 *Lima pellucida* C.B. Adams, 1846
- 6079 *Lyonsia hyalina floridana* Conrad, 1849
- 5731 *Macoma constricta* (Bruguere, 1792)
- 5949 *Macrocallista nimbosa* (Lightfoot, 1786)
- 5716 *Macoma tenta* (Say, 1834)

- 5587 *Mactra fragilis* Gmelin, 1791
- 5864 *Mercenaria campechiensis* (Gmelin, 1791)
- 5861 *Mercenaria mercenaria* (Linne, 1758)
- 5090 *Modiolus americanus* (Leach, 1815)
- 5089 *Modiolus modiolus squamosus* Beupherthuy, 1967
- 5069 *Musculus lateralis* (Say, 1822)
- 5602 *Mulinia lateralis* (Say, 1822)
- 4995 *Noetia ponderosa* (Say, 1822)
- 4786 *Nucula proxima* Say, 1822
- 4858 *Nuculana acuta* (Conrad, 1831)
- 5290 *Parvilucina multilineata* (Tuomey & Holmes, 1857)
- 5969 *Parastarte triquetra* (Conrad, 1846)
- 5272 *Petricola pholadiformis* (Lamarck, 1818)
- 5933 *Pitar simpsoni* (Dall, 1889)
- 5849 *Polymesoda caroliniana* (Bosc, 1801)
- 5851 *Polymesoda maritima* (Orbigny, 1842)
- 5329 *Pseudomiltha floridana* (Conrad, 1833)
- 5612 *Raeta plicatella* (Lamarck, 1818)
- 5975 *Rupellaria typica* (Jonas, 1844)
- 5777 *Semele proficua* (Pulteney, 1799)
- 5592 *Spisula solidissima similis* (Say, 1822)
- 5816 *Tagelus divisus* (Spengler, 1794)

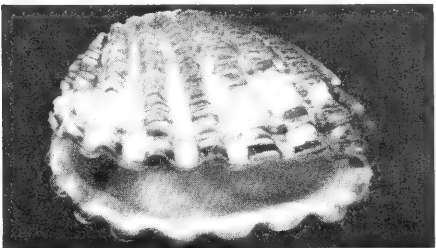


Fig. 7. *Carditamera floridana* Conrad, 1838.

- 5812 *Tagelus plebeius* (Lightfoot, 1786)
- 5661 *Tellina alternata* Say, 1822
- 5660 *Tellina lineata* Turton, 1819
- 5678 *Tellina tampaensis* Conrad, 1866
- 5673 *Tellina texana* Dall, 1900
- 5674 *Tellina versicolor* Dekay, 1843
- 5702 *Tellidora cristata* (Rucluz, 1842)
- 5546 *Trachycardium egmontianum* (Shuttlew, 1856)
- 5549 *Trachycardium muricatum* (Linne, 1758)
- 5918 *Transennella stimpsoni* Dall, 1902

\* More abundant in the Tarpon Springs area

WEST COAST SHELL SHOW

C.O.A. members in the western states are urged and invited to participate in the 1984 West Coast Shell Show in Santa Barbara, California, which, this year, is combining with the Annual "Fiesta of Gems." The combined show will be held at spacious Earl Warren Showgrounds right by Highway 101 on Saturday and Sunday, October 13th and 14th. Anyone interested in exhibiting, write: Show Committee, Box 30191, Santa Barbara, CA. 93130, for show schedule and registration forms.

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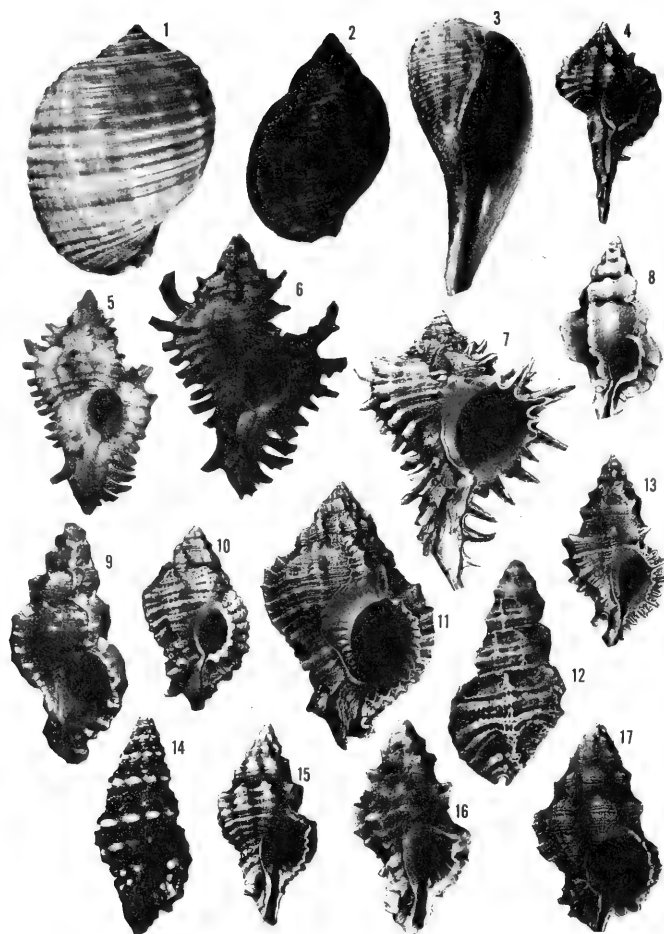
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**Shells In Print by Richard L. Goldberg**  
**DISTRIBUTION OF SHALLOW-WATER MARINE MOLLUSCA,**  
**YUCATAN PENINSULA, MEXICO by Harold E. Vokes and Emily H. Vokes**

Middle American Research Institute, Publication 54. 1983

The marine molluscan fauna of the Yucatan Peninsula has in the past only been documented in a handful of papers since 1891. During preparation of a monograph entitled, "The archaeological use and distribution of Mollusca in the Maya lowlands" (Middle Amer. Resh. Inst. Publ. 34), E. Wylls Andrews IV became aware of the lack of present day knowledge of the marine molluscan fauna of the Yucatan area. Dr. Andrews began to prepare an annotated checklist detailing the composition and distribution of the shallow-water fauna of the entire Peninsula. Initially he was concerned only with the larger species utilized by the Mayans, but this new emphasis necessitated the study of the smaller and micro species. In 1964 Emily and Harold Vokes became acquainted with Dr. Andrews' and his work, and assisted him in the field and laboratory on this survey. They continued work on this project after Dr. Andrews' death, and the culmination of their work is published in this very important monograph "Distribution of Shallow-Water Marine Mollusca, Yucatan Peninsula, Mexico." Enough of this brief history.

The scope of the monograph is comprehensive, covering 769 identified species of Gastropoda, Bivalvia, Polyplacophora, Scaphopoda, and Cephalopoda. There are 16 species of unidentified mollusca. This soft-cover, 183 page survey is an important companion volume to Abbott's "American Seashells." Each one of the listed species is illustrated on 50 high quality black & white plates. The photographs are excellent, and especially useful for identification of the micromollusca. The text is listed in systematic order, and cross-referenced to the plates. The Micromollusca have been segregated in the plates, so the systematic order is juxtaposed for the illustrations. These micro shells are marked with an asterisk in the systematic list of species.

The list follows Abbott's "American Seashells" (1974). Information with the species name includes full author and date, where originally described, and location & species number in Abbott (1974). Throughout the systematic listing, remarks can be found on certain species. Most notably the authors propose splitting of *Phalium granulatum* and *Pinflatum* as separate and valid species; *Aspella senex* as the correct name for *A. anceps*; and *Risomurex*

*caribbaeus* the correct name for what has been long known as *R. muricoides*.

Along with the systematic list and illustrated species are nine photographic plates of habitats surveyed for this monograph, a map of the Yucatan Peninsula with ecologic zones mentioned in the text, and a listing of the species by ecologic areas. The text is fully indexed.

Used alone or as a companion volume to "American Seashells," this publication is a must for those interested or specializing in the Caribbean faunal region. The price is \$21.50 (including postage) and can be ordered from Middle American Research Institute, Tulane University, New Orleans, LA, 70118.

**GRAND TROPHY:** (cont. from pg. 21)

A worldwide display of the family Naticidae, showing the various sand collars, plus photographs of eggs, veligers, and *Polinices lacteus* laying sand collar in the exhibitor's aquarium. The exhibit is 27 ft. long.

Bea retired to Florida from Brooklyn, N.Y., where she was employed as a medical assistant and X-ray technician. She was interested in shells even as a child, combing the beaches for goodies from the sea. Her all-consuming love is for marine egg masses, and has lectured at AMU, COA, and various clubs on the results of her studies on the subject. Most of her material is self-collected while SCUBA diving. She runs her own 18 ft. boat.

**1984 Metropolitan Seashell Show (Greater St. Louis Shell Club), St. Louis, Missouri, April 13th - 15th**

Winner: Mrs. Kathy Krattli

**Title of Display: Muricidae "Quills and Frills"**

The display consisted of 43 species in a 12 ft. long display set against a "Royal Purple" background. Information given on the ancient method of dye making. Also shown was *Murex cabritii* communal egg mass with 2 trapped females in it.

Kathy was born and raised in Hawaii where she has collected shells for as long as she can remember. However she didn't get really "serious" about shell collecting until she joined the Greater St. Louis Shell club in 1980. The mother of three grown sons, Kathy lives with her husband and youngest son in O'Fallon, Missouri.



Fig. 5. First C.O.A. award!

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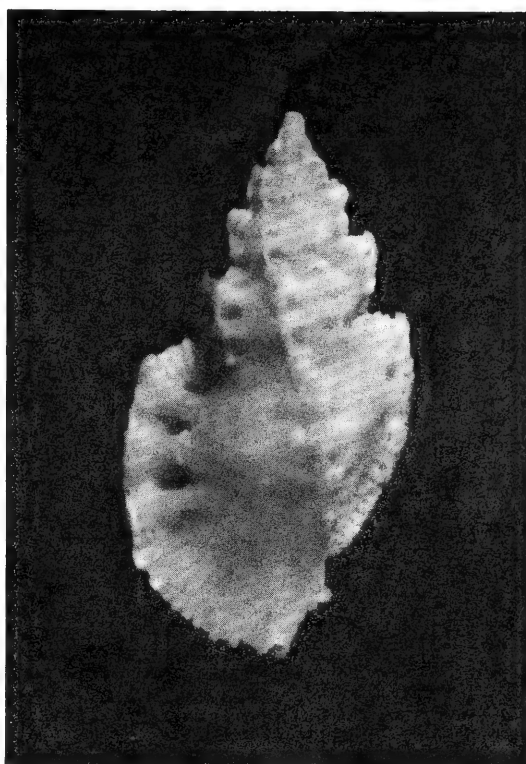
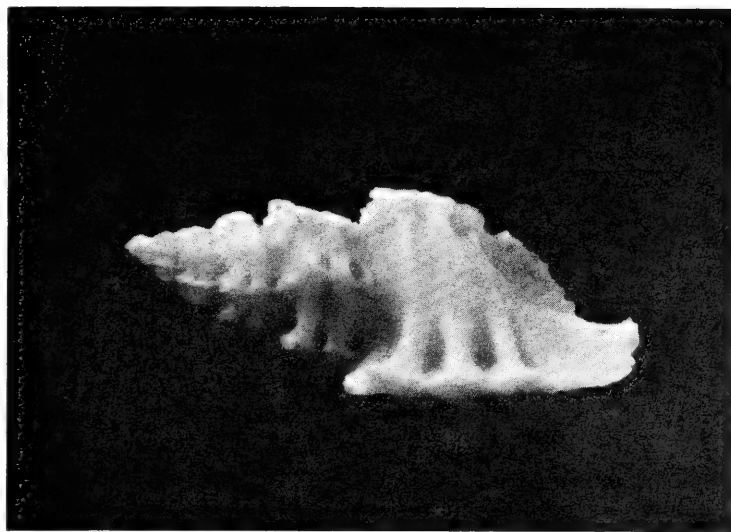


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J.P. Buys, Secretary of the Chiton Club, Box 84222, 2508 AE Den Haag, Netherlands, writes that members of his group would like to exchange chitons with members of the C.O.A.





Figs. 1 & 2. Side and top views of the newly described *Favartia paulboschi* Smythe & Houart, 1984. This 17.5mm specimen, AbS 84-265, was collected under rocks with algae, Masirah Island, Sultanate of Oman. The shell is a pale, creamy yellow-white. The new species was named in honor of Paul Bosch, son of Donald and Eloise Bosch, and described in *Informations de la Société Belge de Malacologie*, Vol. 12, No. 1 (Jan.), 1984. At the time of publication, 19 living and 28 dead examples were known and recorded, from Masirah and the mainland near Muscat, the largest of which was 18.4mm long. The new taxon was compared by the authors to *F. peasei* (Tryon, 1880) and *F. sykesi* (Preston, 1904).

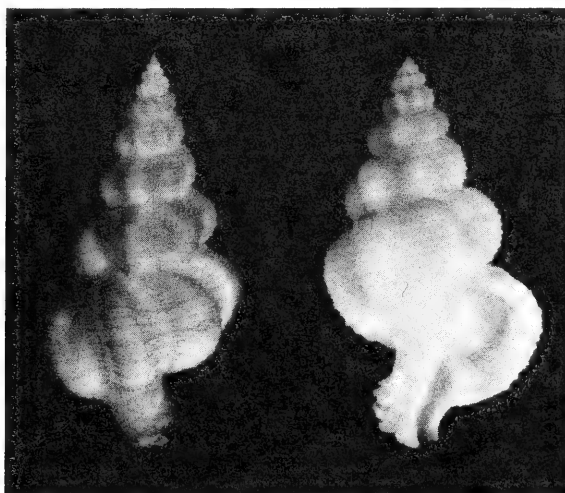
## SHELLS FOR THE AMATEUR

by R. FOSTER & C. GLASS

Fig. 4 (below, left). *Cantharus albozonatus* Kosuge, 1983, a 47.5mm shell, AbS 84-220, described from Punta Engaño, Mactan Island, Cebu. The shell is pale brown with darker brown spiral cords, threads and granules. Fig. 5 (below, right). *Latiaxis chiangi* Lan, 1982, a white and apricot orange specimen (AbS 84-010, 011), both 29mm long, from Mactan Island, Cebu. This unusual latiaxis was described from Bohol, from deep water (200-300mm) in the *Bulletin of Malacology*, R. O. C. Apparently the same taxon was redescribed by D'Attilio & Myers as *Coralliophila armeniaca* in *The Transactions of the San Diego Society of Nat. Hist.*, (Vol. 20, No. 5, 18 January, 1984; this latter species was described from 75m off Cebu in the Bohol Straits.



Fig. 3. *Dermomurex neglecta* Habe & Kosuge, 1971; a little known Muricid from Panglao, Bohol. This specimen (AbS 80-974) is 24mm long. It is bone-white and looks more like a fossil!





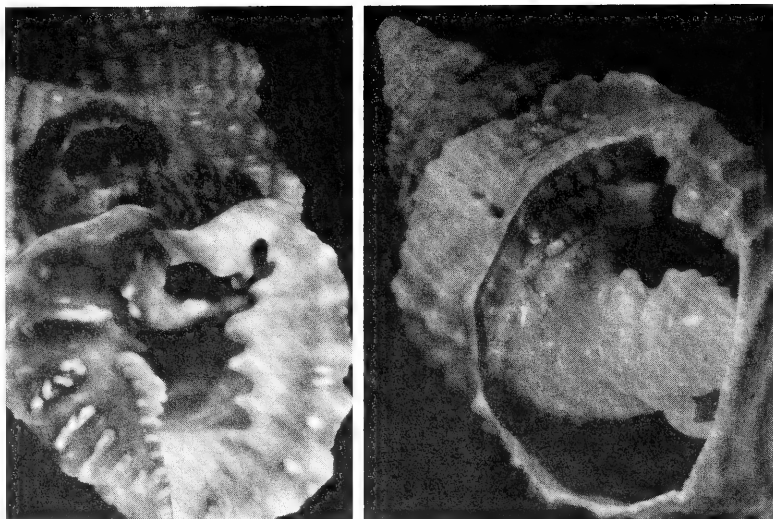


Fig. 1. Barnacles around and over which this *Distorsio constricta mcgintyi* has layed down its parietal shield. Fig. 2 (right). Cut-away view of a *Distorsio constricta mcgintyi* (AbS 84-062) showing the inside of an earlier aperture.

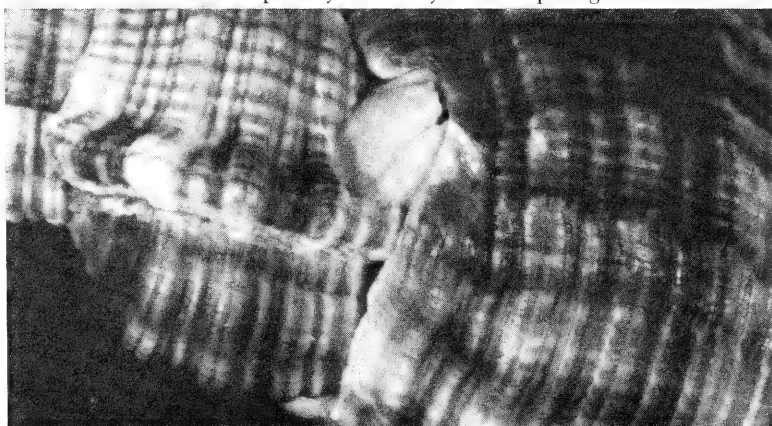
## SPECULATIONS ON THE DISTORTIONS OF DISTORSIOS

by R. FOSTER & C. GLASS

One cannot help but wonder what causes the distorted, lopsided shapes of the members of the genus *Distorsio*. A couple of years ago we received a specimen of *Distorsio constricta mcgintyi* Emerson & Puffer, 1953 (Abs 82-839) dredged in 220 ft off of Florida which was unusual in that there were barnacles under the thin shell material of the parietal shield. Most other types of shells would have dissolved the impeding barnacles when they grew their new varix, in the same way that a *Murex pecten*, for example, would have to dissolve spines of its earlier varices as it grows new whorls. The *Distorsio*, it seems, was incapable of dissolving this shell-like material. This inability to dissolve shell material would account for the lopsided quality so characteristic of the genus, the shell having to build the new varix on top of the old whorl! To test this theory, we removed part of the outer whorl of another specimen of *D. constricta mcgintyi*, and indeed, there inside was not only the fine sculpturing of a previous whorl but an entire, earlier, undissolved aperture (see fig. 2).

This inability to dissolve shell or shell-like material is also apparently not limited to the distorsios, within the Cymatiidae, for we also came across a specimen of *Cymatium pileare* Linne from the Sulu Sea which had grown over and around a barnacle which had attached itself to an earlier whorl of that shell (fig. 3)!

Fig. 3 (below). A barnacle on a specimen of *Cymatium pileare* (AbS 82-161) which has been partially covered by the subsequent growth of the shell.



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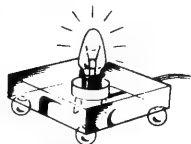


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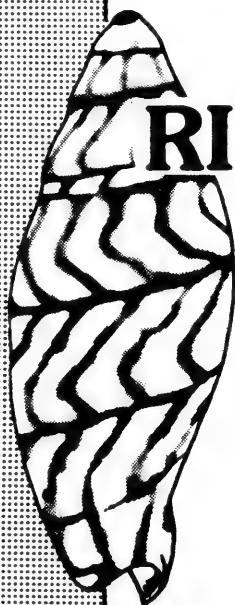


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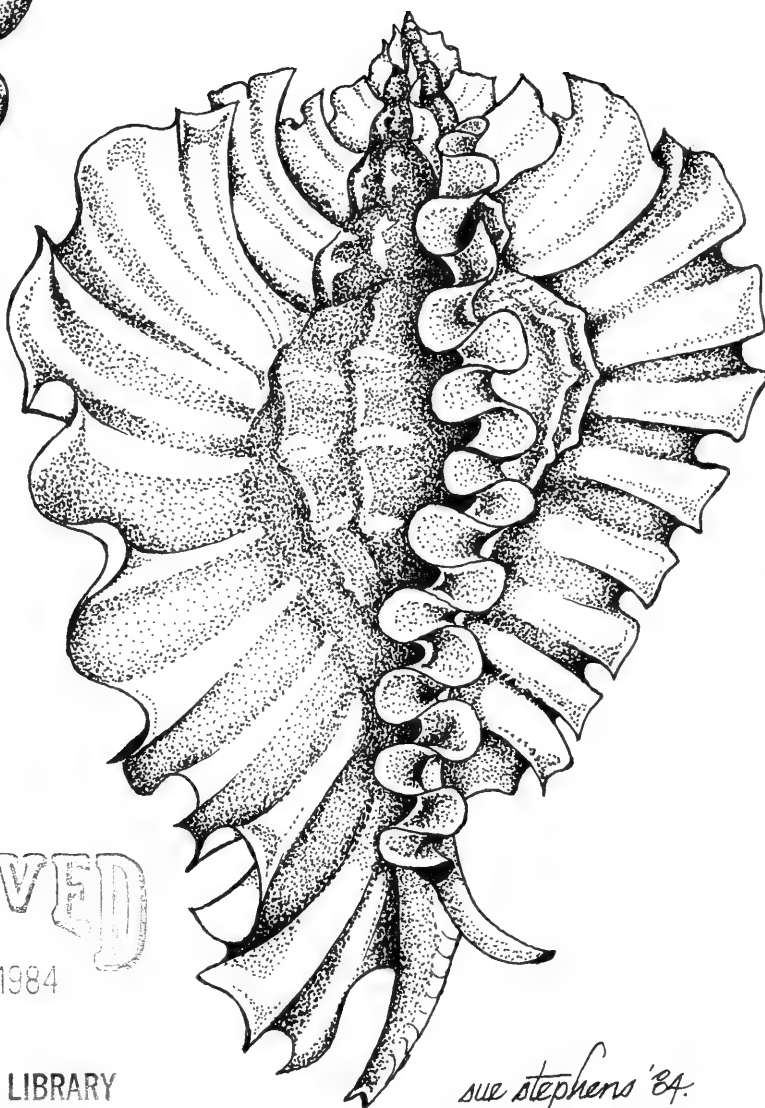
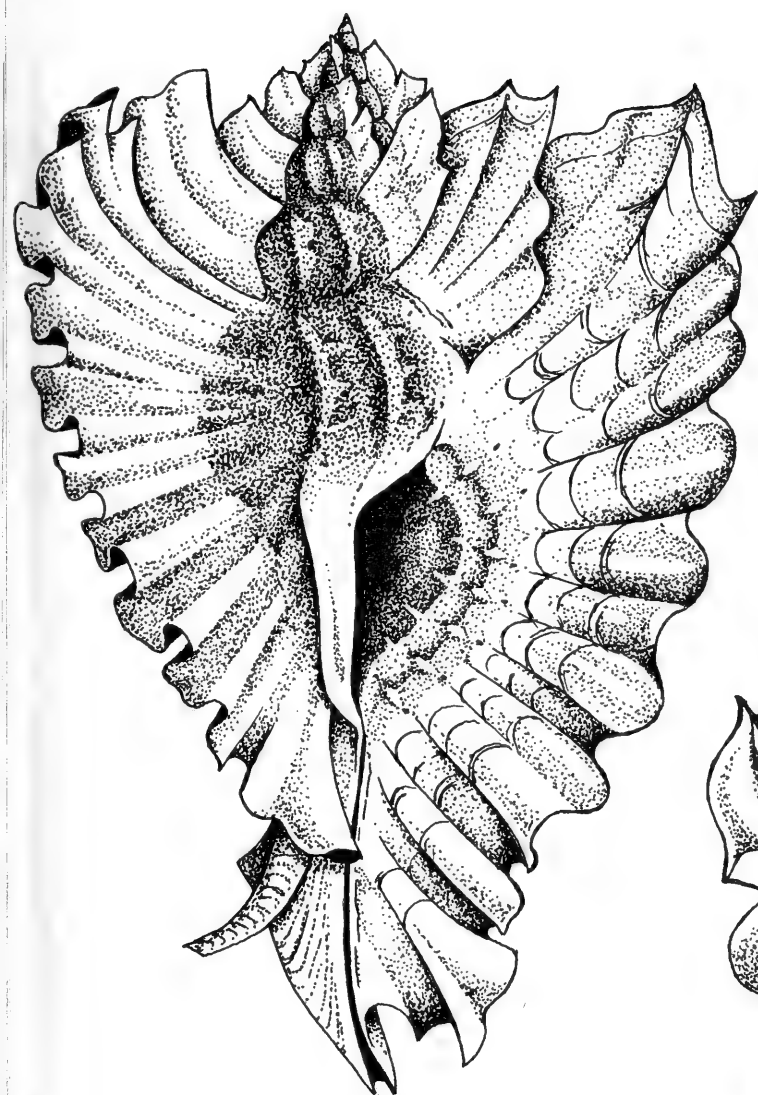
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# CONCHOLOGISTS OF AMERICA BULLETIN

VOL. 12, NO. 3

SEPTEMBER, 1984





# CONCHOLOGISTS OF AMERICA, INC.

A Collective Devotion To  
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In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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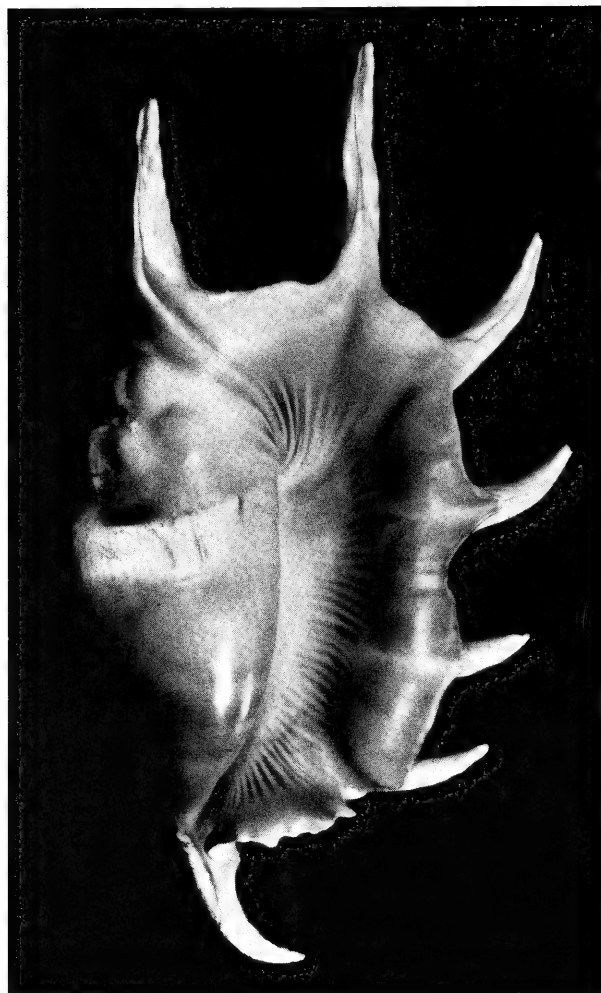
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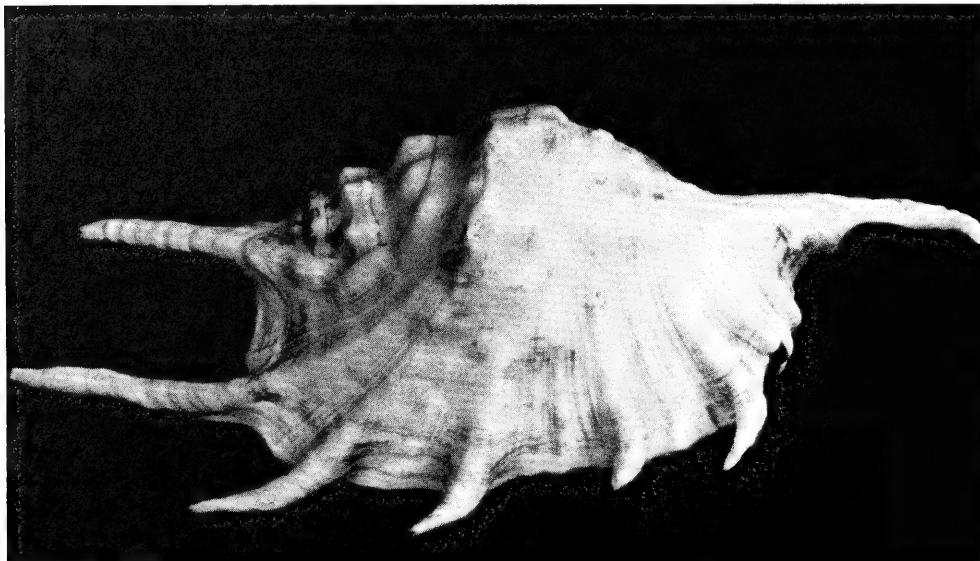
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**STROMBUS ARACHNOIDES** Shikama  
By C. GLASS & R. FOSTER

COVER PLATE: These beautiful pen and ink renderings of dorsal and aperture views of *Pterynotus (Murex) phyllopterus* (Lamarck, 1822) are a sample of the art of C.O.A. member Sue Stephens of Sanibel, Florida. You may recognize her work from the Shell Desk Diary!

Fig. 1 & 2. Dorsal and aperture views of a 225 mm long specimen of *Strombus arachnoides* Shikama from the Solomon Islands (AbS 84-487).



In the May-June, 1979 (Vol. 10, No. 110-111) issue of *La Conchiglia*, a putative new species of *Lambis*, *Lambis wheelwrighti* Joel Greene, was published from Tawitawi, Sulu, Philippines and it was noted by the author that it occurs with *Lambis millipeda* and *L. truncata*. Prefixed to the article is the reviewer's opinion that Greene's new taxon is a hybrid between *L. millipeda* and *L. truncata*, an opinion also expressed by Walls in his *Conchs, Tibias and Harps* (T.F.H., 1980). Walls also opines, in the "Synonymic Index," that *Lambis arachnoides* Shikama, 1971 is probably a hybrid of *L. millipeda* and *L. truncata*, but neither Walls, nor anyone else, to our knowledge, has made the secondary connection that Shikama's proposed new species is undoubtedly the same taxon, that it predates it by 8 years, and that Greene's proposed new species is at best a synonym of Shikama's *L. arachnoides*.

We obtained the figured shell, AbS 84-487, among several similar specimens, from the Solomon Islands where it was collected by natives free-diving in 20-30 ft. in Marau Sound, Guadalcanal. It fits both the descriptions of Shikama and Greene. Shikama listed as location, "... gained it from Taiwan. Location is probably the South China Sea. Shell including digits measured 145 mm high and 100 mm wide." The specimen pictured here from the Solomons is 225 mm long. *Lambis arachnoides* Shikama was published in Science Reports of the Yokohama National University, Sec. II, No. 18, December, 1971 ["On some Noteworthy Marine Gastropoda from South-western Japan (III)"].

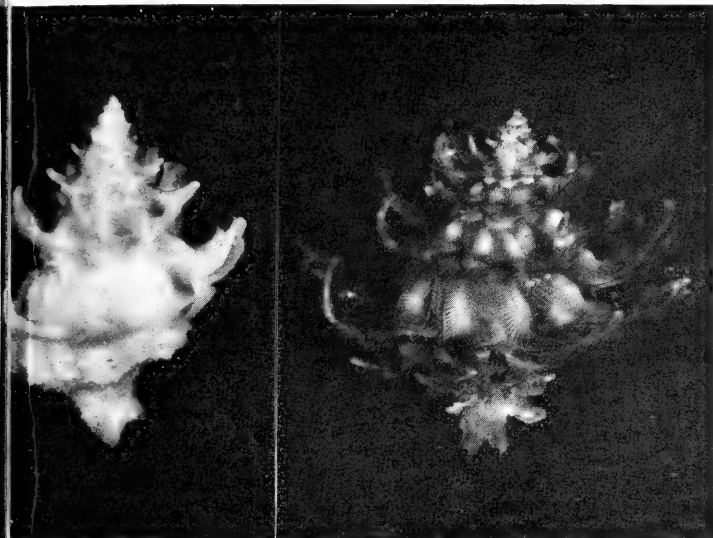


Fig. 1. *Latiaxis macutanica* (left) and *L. gemmatus* (right).

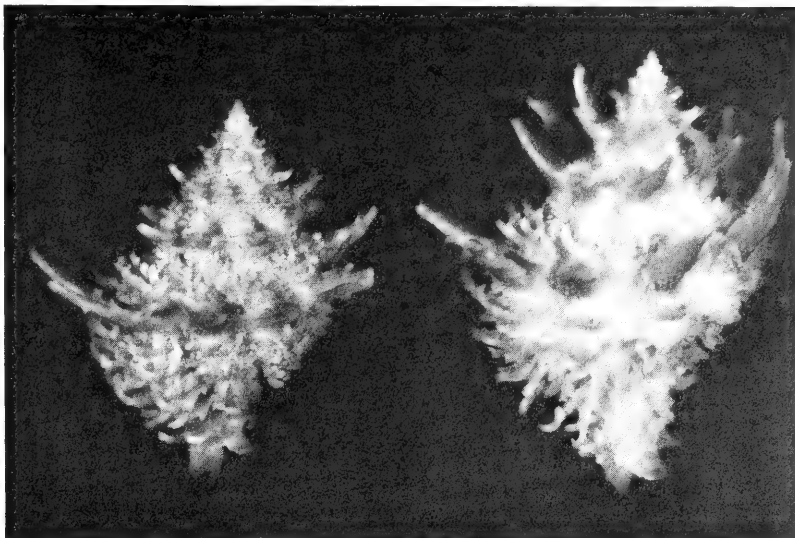


Fig. 2. *Latiaxis kawanishii* (left) and *L. tosanus* (right).

## LATIAxis LOOK-ALIKES

by DAVID R. DELUCIA

Photography by Robert Muller

With the plethora of *Latiaxis* species being "rediscovered" in the Philippines, the collector is faced with a bewildering array of forms that are often difficult — if not impossible — to identify. This article will attempt to overview several commonly confused pairs of species that deserve a better fate than to be left in the "unidentified box" along with that strange cerithium you found on the beach and endless epitonium clones!

One of the most frequently interchanged pairs is *Latiaxis gemmatus* Shik. and *Latiaxis macutanica* Kos.. Superficially, they resemble each other in shape, but upon closer examination are quite different on several characteristics. *L. gemmatus* has spines that are toothed, similar to the staghorn fronds of *L. fruticosus* Kos. but a little shorter. *L. macutanica*, on the other hand, has spines with smoother edges in most cases, only prominently indented in the largest specimens. The colors, too, rarely overlap. *L. macutanica* is white, tan, or occasionally light purple, while *L. gemmatus* is represented by a so-called "red" form (actually a very pleasing persimmon) and a "yellow" variety (more of a pale straw-tan). If you see red and yellow forms of *Latiaxis macutanica* on a dealer's list, don't be surprised if they turn out to be *L. gemmatus*. The overall effect of *L. macutanica* is that of a thin, stubby shell, while *L. gemmatus* typically is wider and more frondose.

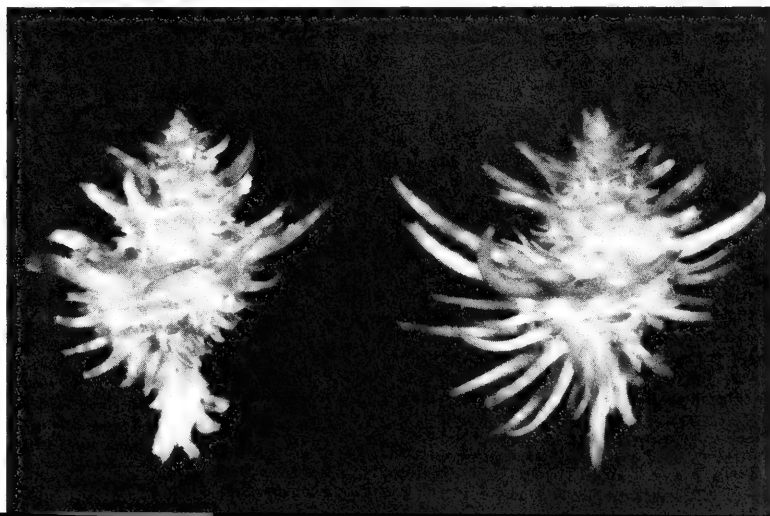
In the past few years, several new species of *Latiaxis* have been discovered in tangle nets that are dropped from 40 to 80 fathoms or more in Bohol, and other areas in the Philippines. One such shell is *Latiaxis kawanishii* which was named by Kosuge in 1979. It resembles several other newcomers such as *L. problematicus* Kos. and *L. tumidus* Kos., but is most likely to be confused with *L. tosanus* Hir.. The two species are very close, but *L. tosanus* consistently appears to be larger, with bladelike spines that are often flushed with pink. Both species have a peculiar latticework of spines on the body whorl, but in *L. kawanishii* this network is tight and close-knit, while on *L. tosanus* it is more widely spaced and open in sculpture. The spines on *L. kawanishii* are narrow, pointed, and tend to stick out at near right angles to the rest of the shell. *L. tosanus*, on the other hand, has spines that reach upward like little fingers, creating the effect of a small crown. Occasionally *L. tosanus* is listed as a synonym of *Latiaxis nakayasui* Shik., but the latter is a distinct species that is almost always white with needlelike deep pink spines — quite different from either of the above.

Another pair of species that is hard to differentiate is *Latiaxis echinatus* Azuma and *L. fenestratus* Kos. At the moment they are

considered to be valid species, but it is likely that further research will reveal *L. fenestratus* as merely a Philippine form of the typically Japanese *L. echinatus*. Both species are white to flesh color, but *L. echinatus* is more globose, with long, thin spines that radiate haphazardly in all directions, like the spokes on a pinwheel. *L. fenestratus* is narrower, with shorter spines that are arranged more systematically, giving the shell a neater appearance. A further giveaway is the base of the aperture, which on *L. fenestratus*, tapers to a narrow "chute" which descends due southeast about 3 millimeters (assuming the shell is viewed aperture side up). With *L. echinatus*, the "chute" is reduced in size and points straight down like a divining rod.

As an increasing number of *Latiaxis* species comes to light and is offered to the public, the need for an all-encompassing reference on the coralliophilidae becomes plainly evident. Clover's recent *Latiaxis Catalog* is useful as a check list, but the pictures are small and vary in reproduction; not all are useful for identification purposes. The family is also covered pretty thoroughly in Abbott and Dance's *Compendium of Seashells* and Eisenberg's *Seashells of the World*, but be forewarned that the latter contains a few misidentifications. For now, it is best to be prudent when offered "new" latiaxis until more research is conducted. It is likely that many of the Philippine shells being brought up will turn out to be mere analogs of their Japanese counterparts!

Fig. 3. *Latiaxis fenestratus* (left) and *L. echinatus* (right).





## C.O.A. GRAND TROPHY WINNERS

Brith Shell Collectors Club National Shell Show - 28th April, 1984

Winner: Jennifer Anne Hognerud

Title of Display: Obhor Creek, Jeddah, Saudi Arabia

The display was to show simply the selection of shells which were found in one small area, from approximately 2' to 6' water depth, and a 'square of about' 300 yards. A color code was introduced to see quickly which area each shell was located, e.g. yellow - sand, green - vegetation. Color photographs were exhibited showing the spawning of Tibias.



Fig. 2. Jennifer with her coveted shield.

Fig. 1. A representative display of shells collected in one small area of Obhor Creek, Jeddah, Saudi Arabia by Jennifer Hognerud. The object of the display was to show habitat of the various specimens and the water depth where specimens were found.

Jennifer Hognerud was born in the United Kingdom (1946), and was brought up in Kenya for 3 years. Jennifer then went to Saudi Arabia (Jeddah, Red Sea) and started collecting shells about 18 months ago. She became very keen and is now enrolling to start a Zoology Degree Course in South Wales, UK. At the moment Jennifer is enjoying herself by visiting the National Museum of Wales and The British Museum of Natural History, as she is helping Doreen Sharabati (who wrote the book *Saudi Arabian Sea Shells*) with the research for her new book to be published hopefully at the end of this year. The Cardiff Museum has the Melvill Tomlin Collection and the staff have been most enthusiastic in encouraging her to obtain her dream - to work with shells full time and enjoy herself!

Georgia Shell Show, Northlake Mall, Atlanta, Ga., March 23 - 25, 1984  
Winners: Doug and Louise Compton

Title of Display: The True Conchs

A 30 foot display of the popular genus *Strombus*, showing development from egg to adult, also the habitat, predators, commensals, exploitation by

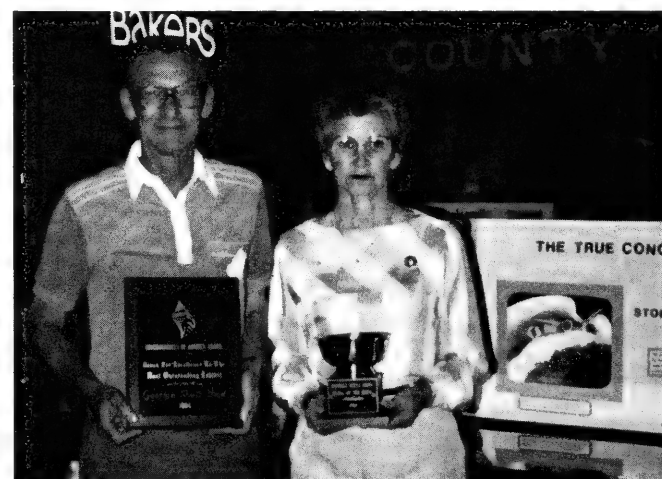


Fig. 3. Doug and Louise Compton with their C.O.A. winning exhibit of *Strombus*.



man and other interesting information about the genus. All species were included except one, with many color variations within some species. *S. vomer hawaiiensis* won "Shell of the Show" from this exhibit.

The Comptons have been members of the Georgia Shell Club for the past seven years; Louise is a past president and served as co-chairman for the shell shows for three years. Doug and Louise work together on the exhibits for shows as they have done with shell collecting over the past twenty years. Their greatest reward in showing shells is the interest shown by the visitors at the shows. The Comptons have agreed to be co-chairmen with Rene and Carl Beeler for the 1984 Georgia Shell Show — one more time!!!

#### C O A TROPHY AWARDS

by ANNE JOFFE, C.O.A. TROPHY CHAIRPERSON

The acceptance of the C.O.A. Trophy And Dealer award certificates as the most prestigious Shell Show Prize continues to grow. Added to the list of twenty world and statewide Shell Shows in 1984 was the Gulf Coast Shell Show in Panama City, Florida.

This year, in addition to the Trophy and certificates, C.O.A. awarded each recipient a beautiful pin. The pin depicts the C.O.A. Logo in gold on a black background. It is engraved "Grand Trophy" corresponding to the trophy.

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I wish to express on behalf of this years recipients, C.O.A., and myself, sincere thanks and appreciation to all who have participated this year.

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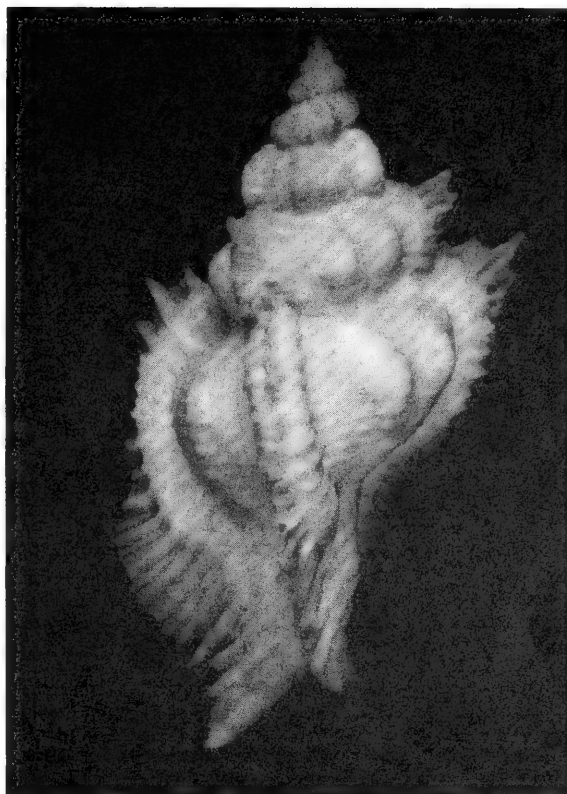


Fig. 1. *Pterynotus brianbaileyi* Mühlhäusser, 1984.

#### WHAT'S NEW

by C. GLASS & R. FOSTER

In 1978 Bob Morrison listed a *Murex* (*Pterynotus*) *loebbeckei* from the Solomons. We called and asked him what it was like. He replied that it was the ugliest *loebbeckei* he'd ever seen, and we told him, OK, we'll take it. When *Pterynotus miyokoe* was described the next year by Kosuge we thought that our shell, 78-001, was actually closer to *P. miyokoe* than to *P. loebbeckei* (see "Philippine *Pterynotus*, this issue, page 42). Just this year this Solomon Island taxon was given a name, *Pterynotus brianbaileyi* Mühlhäusser, 1984 in SPIZIANA, 7:1, 5-9. March, 1984. The author compares it to *P. loebbeckei* and to *P. miyokoe*, suggesting that this new, white species is closer to the latter but differs most noticeably in the width and sculpture of the varix wings, particularly in juvenile specimens. It is described from the Solomons and named for Brian Bailey of Guadalcanal. Our specimen is 67 mm long and from the Russell Islands group in the Solomons. It is a heavier, coarser shell than either of the other two species . . . and we disagree with Bob. It's not ugly . . . the comparison to two of the most beautiful species of Muricidae is just unfair!

Fig. 2. *Homalocantha dovpeledi* Houart, 1982 (Abs 84-468).

Among the newer species of Muricidae named for Dov Peled of Israel is the most unusual *Homalocantha dovpeledi* Houart, 1982. It is, of course, reminiscent of other members of the *anatomica-anomaliae* complex, but, as the picture shows, quite distinct. The specimen pictured, an extraordinarily good one, is 51.5 mm long, brown, and was collected in 25 m at Shekem Beach, Eilat, Gulf of Akaba. We now have the names *peledi*, *dovi* and this *dovpeledi* . . . if any more are named for Mr. Peled, the name will have to be spelled backwards . . . *Murex delepvodi*?







Fig. 1. Welcome party at the Science Center of Pinellas County, hosted by the St. Petersburg Shell Club. Fig. 2. (right). Clair Stahl, treasurer of the C.O.A., caught running off with the assets of the C.O.A. . . . oh no, it was shells he collected during low tide at Pinellas County's Fort DeSota Park!

## COA MAKES A BIG SPLASH AT ST. PETERSBURG BEACH!

By MARY ELLEN AKERS

Clearwater, Florida

Nearly 350 shell enthusiasts convened at St. Petersburg Beach, Florida, from June 27-30, for the 12th Annual COA Convention. "With our convention immediately following those terrific meetings at Sanibel and Sarasota," said Convention Chairman Don Young, "we knew we'd have to work triply hard to make COA 84 an irresistible and successful event!" And successful it was — though Floridians accounted for almost two-thirds of the record attendance, the other third was comprised of folks from 27 other states, the District of Columbia — and from Bermuda, Panama, Israel, Japan, the Philippines, New Zealand and Australia — 20 overseas visitors in all, with the largest group, nine, from Australia! Despite the fact that 19 Texans and 23 New Yorkers were present, no one could top the 50% of members attending from the "Greater" Tedamah (Nebraska) Shell Club (total membership is four)!

Was it sheer coincidence that Don CeSar Beach Resort, site of the festivities, has as its logo a pecten? Pencils, notepads, shoe cloths and shampoo bottles were decorated with the shell. Many visitors collected the pecten-decorated plastic disposable glasses used for water and soft drinks and went home with a complete set! Fresh bars of pink shell-shaped soap were provided each morning, and on our pillows at night we found a paper pecten, which upon opening, produced a shellicious chocolate candy!

Even the registration packet contents were fascinating. Besides the charming program booklet (cover by Mathilde Duffy) and detailed maps to the party and field trip destinations, were coordinated illustrated tickets for the COA activities, several word-find puzzles specifically with COA themes, and numerous brochures and discount passes for local theme parks and attractions.

Other innovations — A special social room was set aside for visiting, with award-winning exhibits of Florida shells by Peggy Williams and by Bet Hamilton, on the shell clubs of the world by Don Young, a shellcraft bird display by Don Weston, a surprise display of Red-Sea shells brought by Dov Peled from Israel, and a cake made by Bet Hamilton, decorated with the Florida Horse Conch, the state's shell, and candy pectens. The last were served at break time on the last day of the convention — yum! Jane Colburn and Dorothy Schneider welcomed each registrant with a glass of Florida orange juice. Publicity and program booklet chairman Mary Ellen Akers had also arranged for a special Proclamation from Governor Bob Graham of Florida, commending the efforts of the COA and declaring the week of June 24-30 as "Shells Appreciation Week" in Florida.

Over 80 doorprizes, including 60 shell books, were received and organized by Dottie Rode, with drawings for the goodies tantalizingly interspersed during the meetings. And Joan Pierson had received and organized over 325 lots of shells for the auctions. Three silent auctions teased the participants, and 150 of the "top-drawer" specimens were reserved for the regular auction, which was conducted by COA President Dick Forbush and Board Member Charlie Hertweck. They cajoled and humored the attendees to record auction proceeds totalling over \$3,280! Auction items included

such diverse temptations as an albino *Cypraea marginata*, *C. donmoorei*, *C. macandrewi*, land snails from Japan, 100 Hawaiian shells collected by Ostergaard, a red *Conus marmoreus* with periostracum intact, *Conus duplicatus*, *Murex rossiteri*, a viewing tub, a long-handled sheller's helper, a display case, and even a "*Pecten bourbonensis*" — a shell shaped (full) bottle of Jim Beam! Door prize and auction contributors are credited elsewhere in this issue.

Program chairman Phil Schneider arranged for and introduced a magnificent array of speakers, whose programs ran the gamut from Dr. R. Tucker Abbott's discussions regarding the role of the amateur in conchology and what does one do with one's shell collection; to traveling vicariously with Kirk Anders to Egypt and the Red Sea, supplementing his program on molluscan patterns and variations, with Charlotte Lloyd to Panama and the Perlas Islands, with Peggy Williams to Bonaire and Cay Sal, with Richie



Fig. 3. Bet Hamilton made and served her blue ribbon shell cake at the Convention. The shell was painted in various shades of orange frosting. Candy pectens of yellow and orange border the cake (*Pecten candei* Hamilton, 1984). Bet lives in Venice and is the secretary for the Sarasota Shell Club.

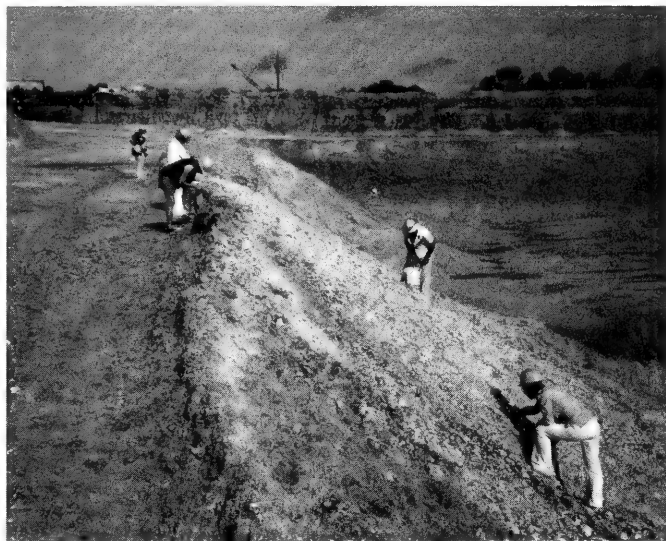


Fig. 4. Fossil collecting at the Sarasota Pit after the convention.

Goldberg to Puerto Rico and the haunts of exotic terrestrials, with Australian Len Zell to the Great Barrier Reef Marine Park; to Ralph Heath's descriptions of his hopes for an enlarged Suncoast Seabird Sanctuary for ill and injured birds with a permanent shell exhibition; to Charlie Hertweck's "The Old Fossil Returns" (to what or *whom* could he possibly be referring?); to the more scientifically oriented "Oceanography" by Hank Foglino, and "Series II of Marine Gastropoda and Their Egg Masses" by Bea Winner; and the fun of how to spot those critters with Bob Lipe's "Right Before Your Eyes;" Bob manned the projector for all illustrated talks.

Don Dalrymple and his crew continued the spirit of hospitality with the St. Petersburg Shell Club's Welcome and Get Acquainted Party, held at the Pinellas County Science Center, a short drive to the mainland. The beautifully served and quickly consumed hors d'oeuvres and wine party was well-received, and attendees wandered throughout the building and gardens, exploring the various science displays.

Ed Colburn and his crew arranged two field trips. So many folks wanted to go on the luncheon cruise that the Belle of St. Petersburg was chartered just for the COA, and everyone enjoyed the sightseeing around the St. Pete part of Tampa Bay. The other field trip was a carpooled sojourn to Pinellas County's Fort DeSoto Park; a fried chicken dinner with all the fixings began the excursion. A summer shower cleared within minutes, as predicted by the local folks. The tide went out and so did the shellers! A half dozen numbered *Melongena corona*, emblem shell of the St. Petersburg Shell Club, had been planted in the area — with the finders to be awarded prizes. Only five were found that evening, along with oodles of busycons, olivas and polineces, and . . . a golden form of *Oliva sayana*! It is unknown whether the golden treasure was stashed in the hotel safe to protect it from the envious locals! Not to accept defeat, several shellers returned the next day to find the sixth *M. corona* . . . and another golden olive!

The business session was delightfully short and sweet — and well attended. [The promise of doorprizes during the meeting undoubtedly had an arm-twisting effect!] New 1984-5 officers were elected as follows:

President Dick Forbush (for a second term!)  
Vice President Anne Joffe  
Secretary/Historian Peggy Williams  
Treasurer Clair Stahl

Ed Colburn has also coordinated the double-session Dealers' Bourses. Forty-three tables were filled to the edges with temptingly tantalizing items! Never has there been such a large gathering of merchants and merchandise to satisfy everyone from the beginner to the most discriminating shell lover. Dealers came from California, Illinois, Arizona, New York, Florida, Tennessee, Michigan, Pennsylvania, North Carolina, Virginia, Israel, Queensland and Western Australia and New Zealand. Almost anything that anyone could desire was available, including fabrics, cases, books and magazines, models, viewing tubs, stamps, coins, jewelry — all shell-related, of course, and shells, shells, shells! Many lovingly clasped packages exited the Bourse area, in the possession of people with the most contented expressions on their faces.

Saturday night arrived all too soon and the cocktail hour and banquet provided the final opportunity for COA members and friends to congregate, compare notes and exchange ideas. Carolyn Petrikin and her crew decorated individual napkin rings with Florida seashells for each diner — a delightful souvenir. And, one lucky party at each of the tables won the

centerpiece, a magnificent ceramic reproduction of the Florida Queen Conch, *Strombus gigas*, filled with silk ferns and tapers. It was quite a sight to see the chairs being turned topsy-turvy to find the first clue in determining from whom we would count off clockwise to find the ultimate winner!

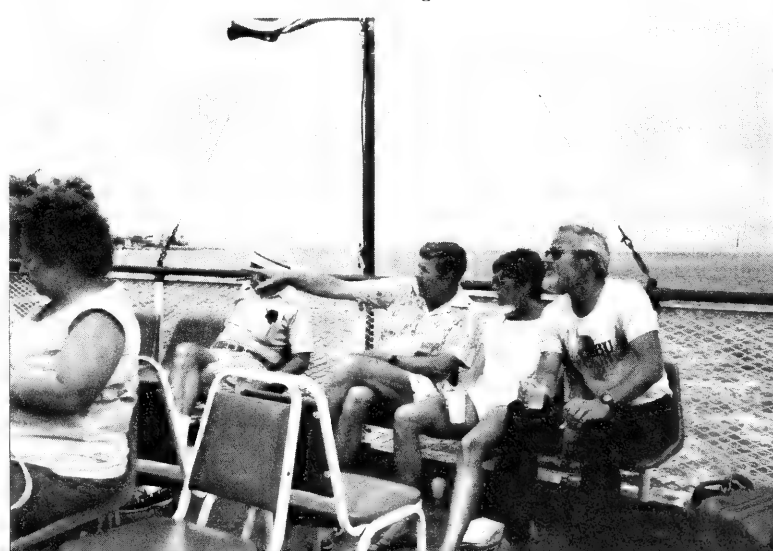
An efficiently served and delicious full course banquet was served in the capacity-filled grand ballroom. But more surprises were in store. Clair Stahl was awarded a special plaque for extraordinary service to COA, due to his multi-year dedication as COA Treasurer. Robert J. L. Wagner and wife, Fran, had journeyed to the convention from Marathon, in the Florida Keys. Bob presented an entertaining, illustrated program entitled, "The 'S' Talk," about — what else? — anything and everything to do with shells. The presentation was Scientific, Silly, Shocking, SaSSy, Sexy, Scintillating, pSy-chologically SatiSfying, and Stupendously Stimulating; the conSenSuS was that Bob almoSt made an "S" of himSelf! The evening concluded with a performance of Greek folk dancing by the Levendia Dancers, a teenage group from neighboring Tarpon Springs.

Many people stayed over the weekend to participate in a special fossil-shelling expedition July 2, arranged by Dick Forbush and Charlie Hertweck at the MacAsphalt (Newburn) Pits east of Sarasota, about an hour's drive away. As this would be the only opportunity many would have to indulge in the *easiest* fossilizing of their lives, nearly 90 intrepid folks caravaned to the pits, signed their releases and donned their hard-hats and climbed the bulldozed areas like mountain goats! According to Charlie Hertweck, the deposits are primarily from the Pliocene Age (1-2 million years ago) to the late Miocene Age (11-12 million years ago); he had found the coveted Miocene *Ecphora* only the week before! As the shells are packed so close (they are literally touching one another), a successful expedition was guaranteed. Folks went home with buckets and boxes full of huge marginellas, extinct vases, shiny olives and cypraea, worm clusters, numerous lefty cones (very common then), frilly murexes, and very large lefty whelks, horse conches, spindles and helmets! Even as you read this, your cohorts are sifting through the material removed from inside the shells — which contain fascinating specimens, double-packed as it were, such as royal bonnets, sundials and typhises!

Registrar and convention treasurer Bob Haller and wife, June, lugged 14 cartons of registration envelopes to the Don CeSar, a visible indication of the humongous task he had assumed months before. In addition, he graciously coped with last-minute changes and adjustments throughout the convention, accommodating everyone where possible.

Everyone agreed, however, that the primary reason the 12th Annual COA Convention was such a resounding success was convention chairman Don Young. Several years ago, Don had undertaken a three-year project in which he researched and contacted all the shell clubs around the world; this project culminated in a shell show exhibit which won, among other awards, the coveted DuPont Trophy, COA Trophy, and Master's Trophy at this year's Southwest Florida Shell Show. Because of this project, Don had a current list of these organizations and actively pursued them all, with two notifications regarding COA 84, as well as private correspondence with dealers and friends around the country and the world, with whom he'd dealt and exchanged for years. As a result, this was our largest and most successful convention yet, indicative of his never-ceasing efforts. Don modestly credits his diligent committee and the support of the other St. Petersburg Shell Club members, and "free-rein" given him by COA President Dick Forbush. But all agree that Don, with his capacity for detail, prodded, encouraged

Fig. 5. President Dick Forbush points out the sights of Saint Petersburg to Nita Wulff and Charles Glass, Editor of the C.O.A. Bulletin, during the luncheon cruise on the "Belle of St. Petersburg."



and really worked right with each of them. He truly was mentor and mastermind.

Nonetheless, COA itself deserves its share of praise. Because of the organization's spirit of friendliness, hospitality, and genuine delight in malacology and conchology, and guided by its knowledgeable and enthusiastic officers, board and bulletin staff, COA is enjoying well deserved success and growth. And this is due to its members. What fun it was to get together with friends with whom we share common interests, to meet the friends with whom we've corresponded for years, be they dealers or fellow amateurs (etymologically, "lovers" of shells), to make new friends, to be able to approach those more knowledgeable than we — and to be welcomed by them — all of this is what COA is about!

Some comments heard: "I came as a non-member to last year's convention and was so impressed with the fascinating programs and fun events, and the outgoing and sincerely friendly people, that I joined COA and pitched in wholeheartedly on this year's convention!" "We are so pleased and surprised by the friendliness of the American people!"

So, congratulations — to Don Young and his committee, to Dick Forbush and his staff, and to *you*, the members and friends for making COA 84 a marvelous convention! Now, let's all look forward with great anticipation and expectations to COA 85!

## THANKS FOR THE SHELLS!

The specimen shells and shell-related items auctioned at the Twelfth Annual Meeting of the C. O. A., held at the Don CeSar Beach Resort at St. Petersburg Beach, Florida, were donated by members of the C. O. A. and by many shell dealers throughout the United States and overseas. We urge our members to patronize these dealers, and we express our thanks and appreciation to all members and dealers who generously made our 1984 auction the most successful to date. At this year's auction, we had 325 lots of shells including shell-related items, which netted \$3280.00.

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### AND THANKS FOR THE DOOR PRIZES!

Our special thanks and appreciation to all those C. O. A. members, shell dealers and book publishers who donated the many door prizes at this year's convention. We urge our members to patronize these dealers and publishers. Eighty door prizes were given away to the lucky winners.

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### LOST AND FOUND

Phil Schneider, program chairman of the St. Petersburg Convention, is still trying to find the owner of a camera which someone lost at the convention. If you've been missing your camera since the convention, write Phil, at 118 Phillips Way, Palm Harbor, FL 33563, and identify it, please.

### COLLECTIBLE FLORIDA SHELLS

This long-awaited book is out and available from American Malacologists, Inc., Box 2255, Melbourne, FL 32902 for \$4.95, regular edition; \$8.95, waterproof edition. There will be a review in the next bulletin.



TWO REMARKABLY KEELED LAND SHELLS

by RICHARD GOLDBERG  
49-77 Fresh Meadow Lane, Flushing, New York, 11365

A number of the land shells, though not as brightly colored or patterned as the Papuinid, *Helicostyla*, or *Liguus* species, do have an appeal in their unique and outstanding shape and sculpture. The two illustrated land shells fall into the latter category.

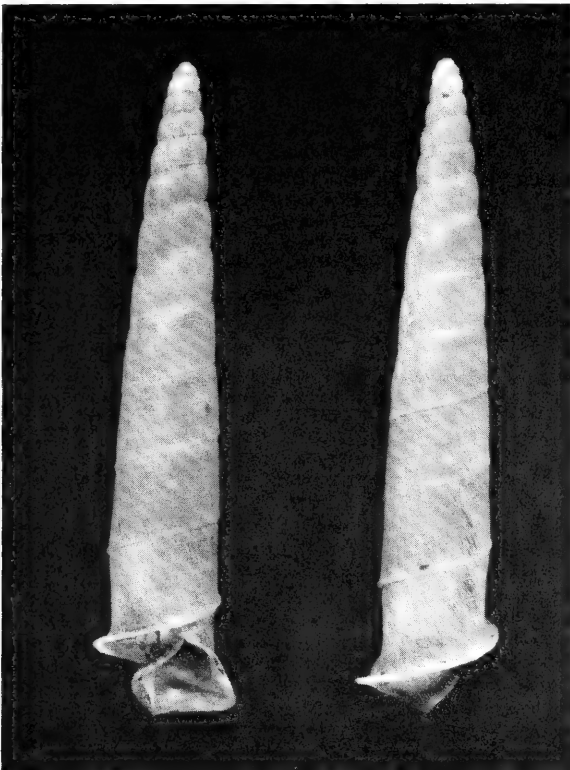


Fig. 1: *Rhodea maxima* (Mousson), Venezuela, 60mm.

Figure 1, *Rhodea maxima* (Mousson), is a rare Achatinid species in the Sub-family Obeliscinae. The specimen illustrated is from Venezuela, and was obtained from an old collection of land shells. In my research through the literature there seems to be much confusion on this group. The genus *Rhodea* was created by H. & A. Adams in 1855. In *Handbuch der Systematischen Weichtierkunde*, Thiele lists the type species as *R. californica* (L. Pfeiffer), but illustrates *R. gigantea* Mousson, which is an almost identical species (if not the same?) to the specimen illustrated here. In Walter Webb's *Foreign Land Shells*, he also illustrated a similar specimen as *Rhodea gigantea*, but the author listed is Dohrn. I have seen only a few specimens in museum collections, and all of the specimens had very scant locality data. Pilsbry (1958) and Thiele (1931) list the range of the genus *Rhodea* as Columbia and Ecuador. Needless to say, this rare land shell is just one of the many intriguing species to be found in South America.

The peripheral basal keel in *Rhodea maxima* is outdone by the operculate land shell from Madagascar, *Tropidophora cuveriana* (Petit). The double peripheral keel on this species sets it apart as one of the most spectacular in the Family Pomatiasidae. There are over 100 species of *Tropidophora*, and all are characterized by their hard, shelly operculum. I have not seen this species circulating recently, but fair amounts of specimens have been seen in museum collections, but again with poor locality data. I assume its habitat is in the inaccessible inland areas of Madagascar.

With the recently renewed interest in land shells among collectors, hopefully these, and many other rare species of land shells,

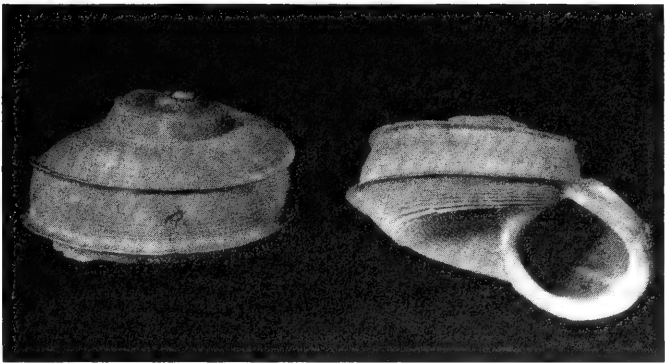
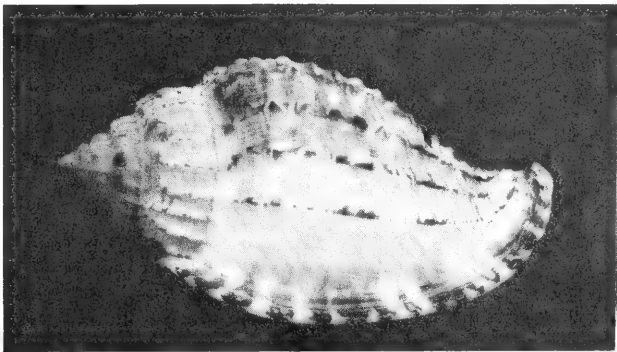


Fig. 2: *Tropidophora cuveriana* (Petit), Madagascar, 53mm (widest diameter). Photos by Richard Goldberg.

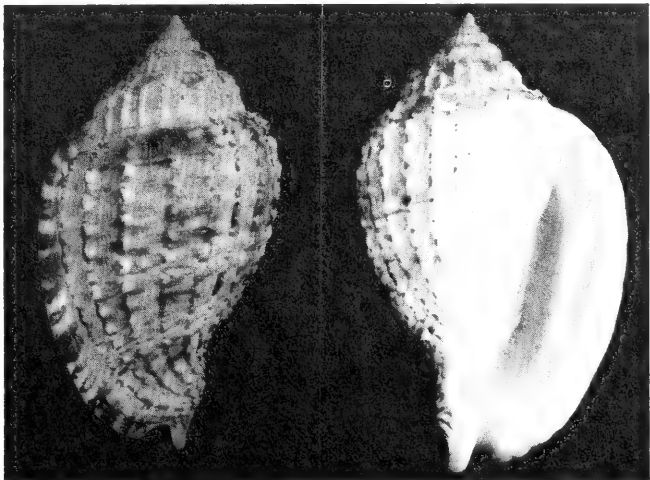
will become available for further research. I would appreciate hearing from anyone who might have current information regarding these species, as well as additional literature citations.

REFERENCES  
Pilsbry, H.A., 1958. A Colombian Species of the Genus *Rhodea*. The Nautilus. Vol. 71(3) pp.83-84.  
Thiele, J., 1931. Handbuch der Systematischen Weichtierkunde.  
Webb, W.F., 1948. Foreign Land Shells From All Parts of the World.



ERRATUM

In our series, "Shells for the Amateur" on page 57 of Vol. 11, No. 4, as Figs. 4 & 5, we pictured what we identified as *Morum teremachii* Kuroda & Habe (AbS 82-197). We are a bit surprised no one has called our attention to our goof. That shell is a slightly aberrant, somewhat juvenile specimen of *Morum joelgreenei* Emerson, with an unusually thin, white rather than orange parietal shield. To make up for this error in identification, we are showing here three views of a 51.5 mm specimen of *Morum teremachii* (AbS 84-436) collected with tangle nets from deep water off Panglao Island, Bohol. It is also a far thinner shell than *M. joelgreenei* and with smoother, less prominent sculpture.





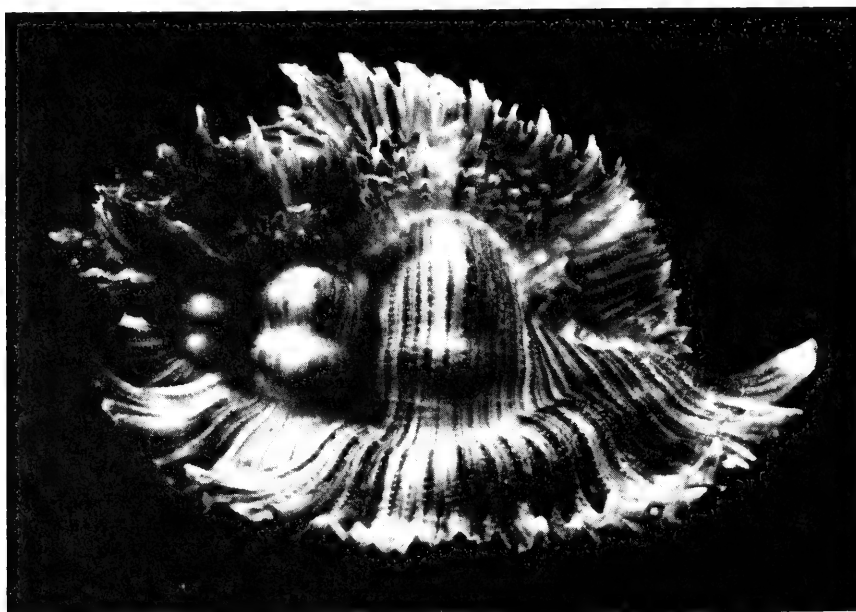


Fig. 1. *Pterynotus miyokoe* Kosuge, AbS 84-210, a 68mm long specimen from Davao, Mindanao.

## PHILIPPINE PTERYNOTUS

by R. FOSTER & C. GLASS

Members of the genus, *Pterynotus* are among the most delicately beautiful and graceful of murex shells. In 1976 Radwin & D'Attilio listed two species as occurring in the Philippines, *Pterynotus alatus* (Röding, 1798) and *P. loebbeckei* (Kobelt, 1879). *P. alatus* is an attractive, slender, winged, white shell and *P. loebbeckei* a most elegant and still quite rare species, generally pink to orange in color, with long, spreading, varical wings. A third species, *Pterynotus orchidifloris* Shikama, 1973, had been described (from the East and South China Seas, but has also been found in the Philippines) but after the "cut-off" date for inclusion in the Radwin and D'Attilio work.

In the late 70s a sensational murex appeared from the Philippines which was at first thought to be a very different form of *P. loebbeckei*, with beautifully curved varical wings and brown and cream banding. This was described in Volume 1, number 1 of the Bulletin of the Institute of Malacology, Tokyo, as *Pterynotus miyokoe* Kosuge, 1979, named for Mrs. Miyoko Suzuki of Japan. The type locality was off Mactan Island, Cebu, but apparently the species comes from Balut Is., Davao, Mindanao, the same locality from which many *P. loebbeckei* are taken. Some authorities consider *P. miyokoe* a subspecies of *P. loebbeckei* but they are quite distinct. The following year two additional species were described from Bohol in the same publication: *Pterynotus cerinamarumai* Kosuge, 1980 and *P. concavopterus* Kosuge, 1980. *P. cerinamarumai* (or

"celinamarumai") was named for Miss Celina S. Galindes of Cebu and for Mr. M. Maruma Suzuki (husband of Mrs. Miyoko Suzuki) of Tokyo, but inadvertently an *r* was used instead of an *l* in the original description. Most specimens we have seen of these two species have come from Davao.

Kosuge compares *P. celinamarumai* to *P. orchidifloris*, stating that they differ principally by the divided varical wings of the latter

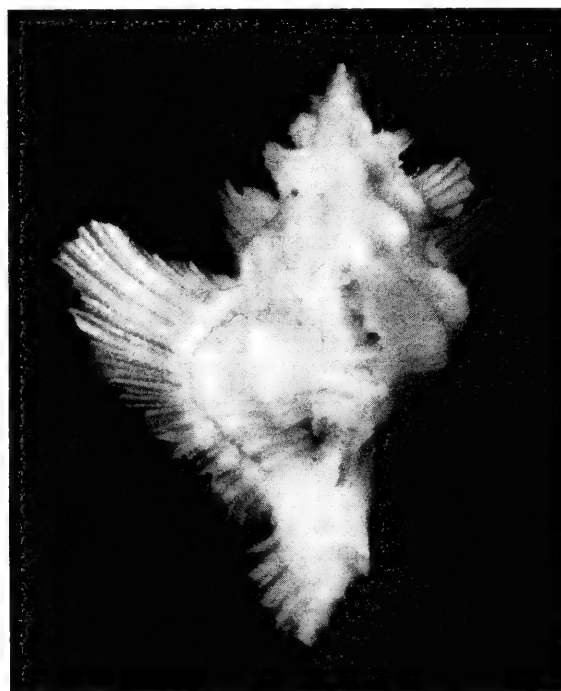
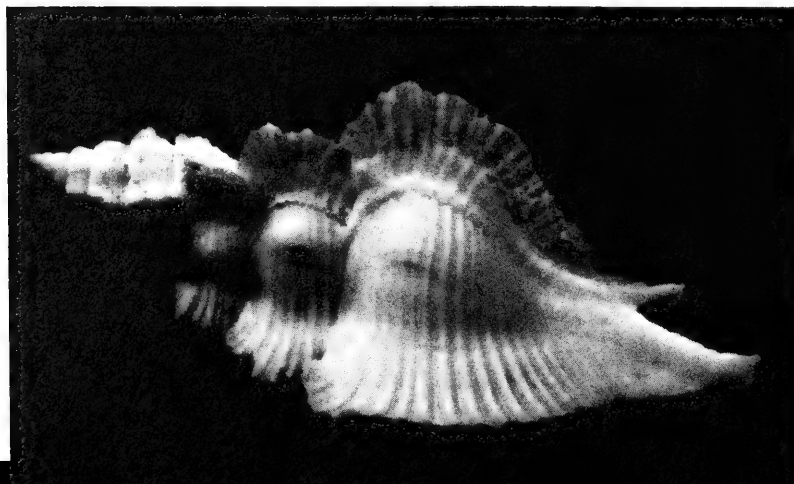


Fig. 2 (above). *Pterynotus loebbeckei* (Kobelt), AbS 74-1160, a young, 40mm specimen from La Reunion Is., Mascarene Islands. Fig. 3 (left). *Pterynotus alatus* (Röding), AbS 80-1345, a 73.5mm specimen from Kii, Japan.



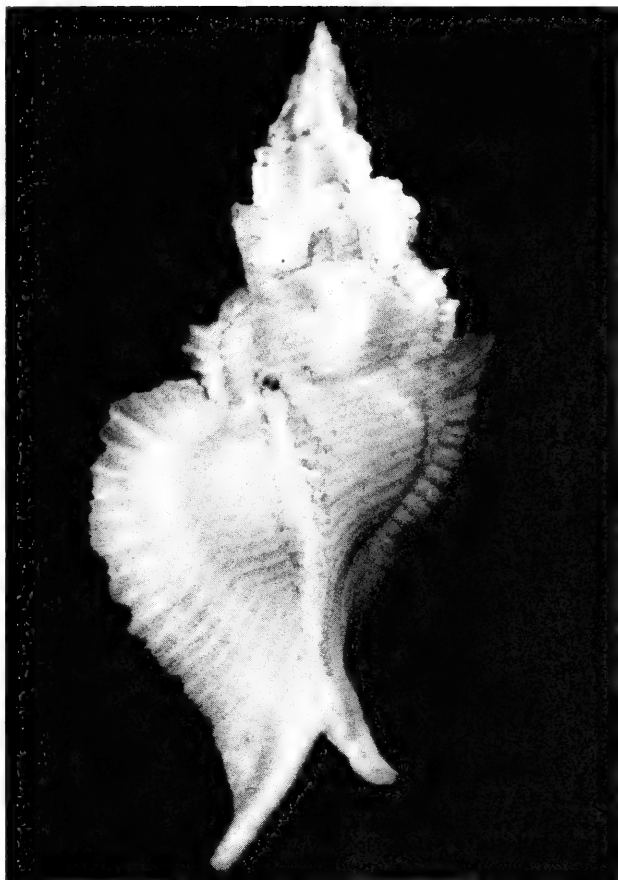


Fig. 4. *P. alatus* (same shell shown in Fig. 2).

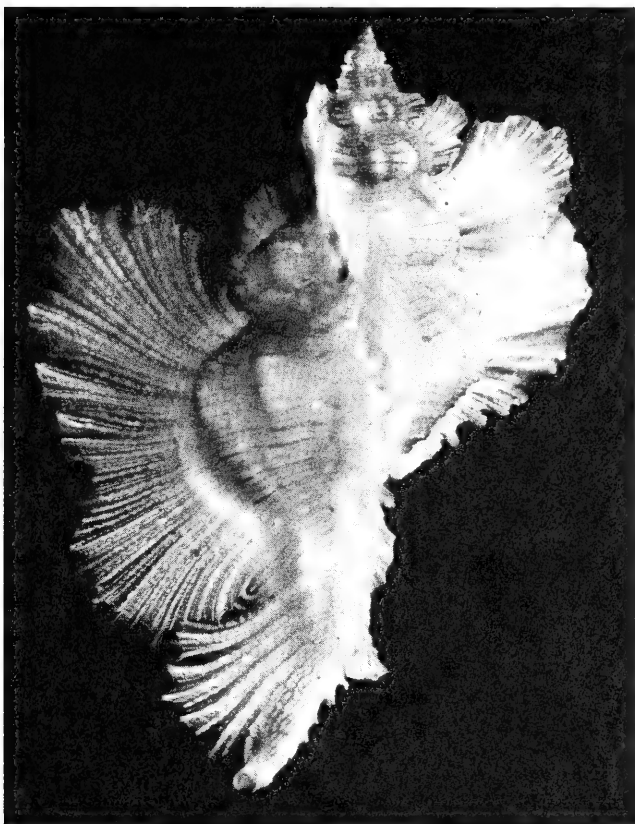


Fig. 5. A 45mm pink-orange *P. loebbeckei* from Balut Is., Mindanao, Philippines. Photo courtesy of The Abbey Specimen Shells.

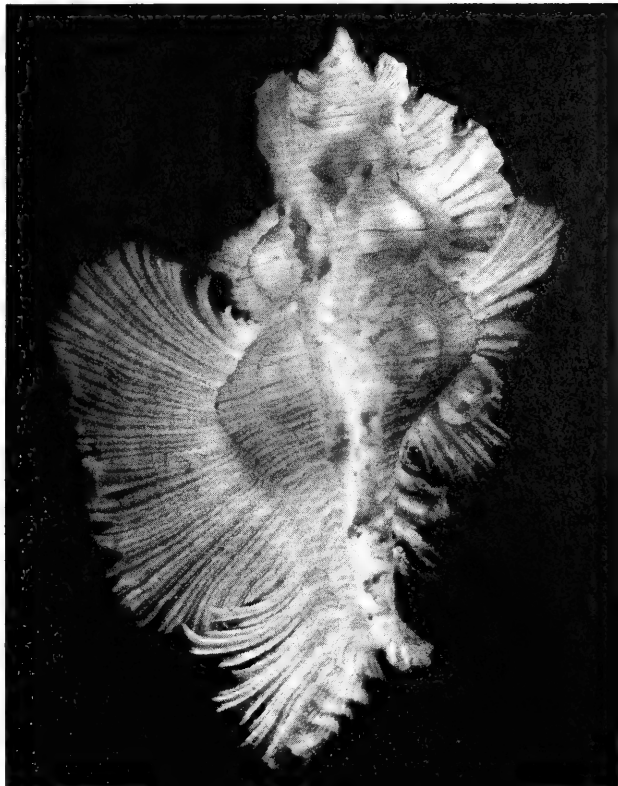


Fig. 6. *P. loebbeckei*, AbS 78-242, a 65mm specimen from Tosa Bay, Japan.

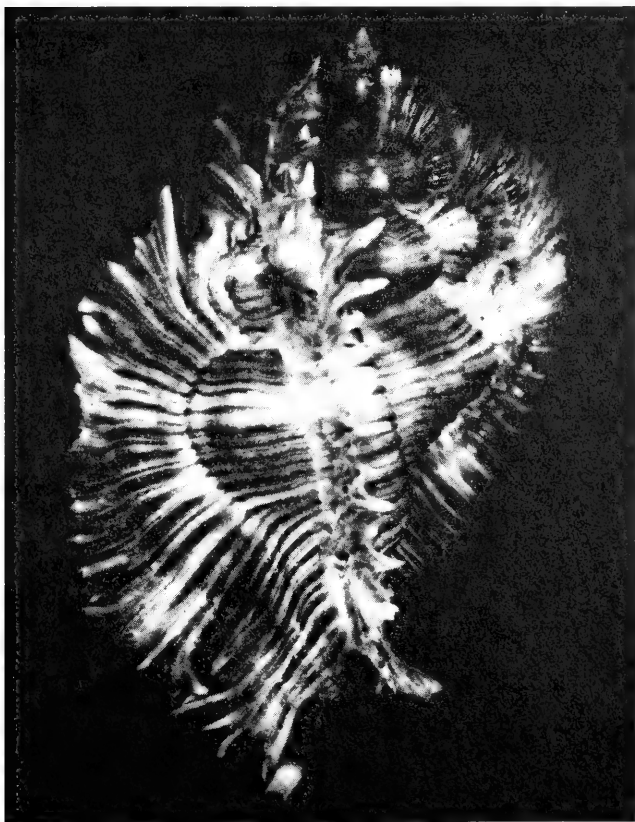


Fig. 7. *P. miyokoe* (same shell shown in fig. 1).

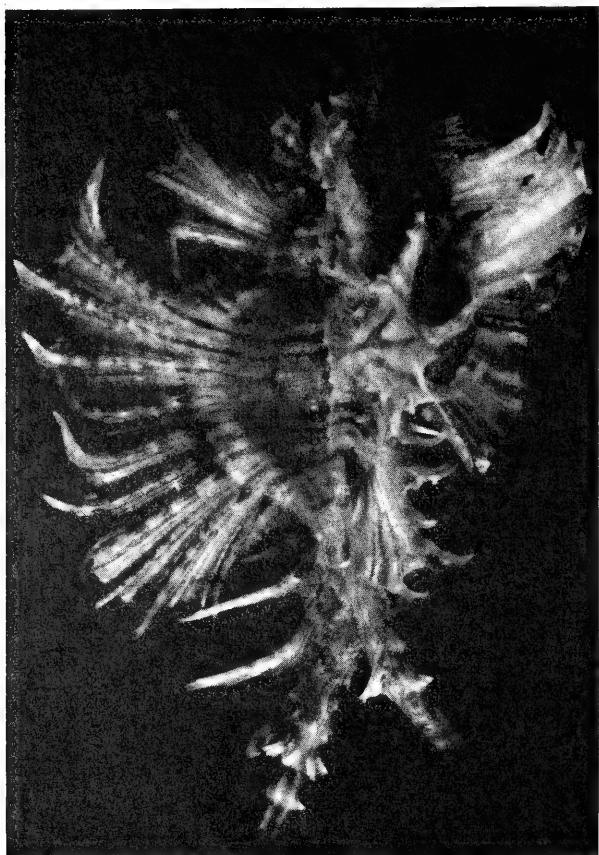
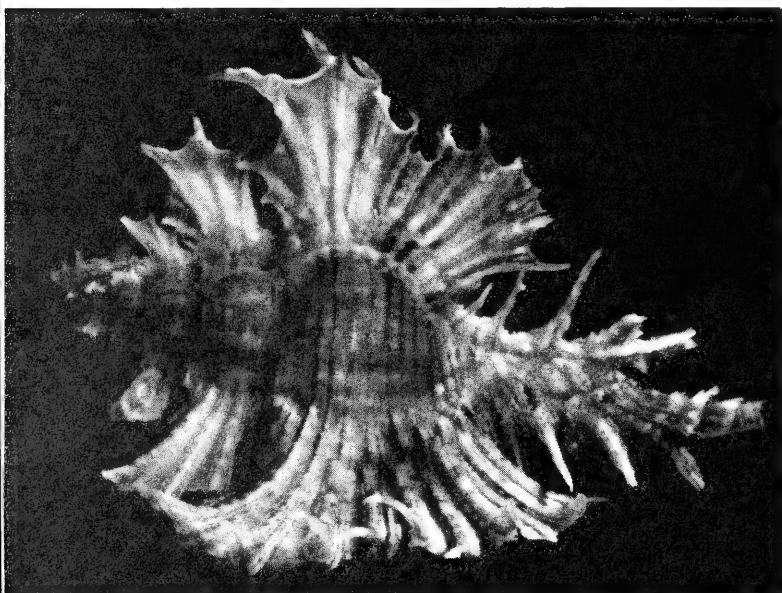


Fig. 8. *P. celinamarumai* (*orchidifloris*, in our opinion), AbS 83-850, a 42mm specimen from Balut Is., Davao, Mindanao. Fig. 9 (below). Side view of specimen shown in fig. 7.



as well as by its coarser spiral sculpture. Some consider the differences inadequate for specific recognition and refer *P. celinamarumai* to synonymy under *P. orchidifloris*, whereas others of a more liberal bent suggest separating *P. celinamarumai* into two species on the basis of differences in color and spination in the forms from Talikud Island and from Balut Island, Davao! We should mention that *Chicoreus subtilis* Houart, 1977 is admittedly a synonym of *P. orchidifloris*, which points out that there is some question about the generic placement of *Pterynotus* (or *Chicoreus*?) *orchidifloris*.

The other Kosuge species, *P. concavopterus*, is small, delicate and attractive but not particularly showy and (at least until now) little known. On two recent trips to the Philippines we were able to acquire three specimens of this unusual and rare new species, one of which is pictured here.

1980 yielded a third species of *Pterynotus*, *P. aparrii* D'Attilio & Bertsch from Mactan Is., Cebu, described in the Transactions of the San Diego Society of Natural History. It has been compared to *P. loebbeckei* as well as to various species of *Marchia* (*M. bibbeyi*, *M. laqueata*, and *M. martinetana*). It is a distinct and appealing little shell (though it does not fare well in the aesthetically unflattering comparison to *P. loebbeckei*!) It is a smallish, orangey shell, similar to but more slender and with fewer varices than *Marchia bibbeyi*.

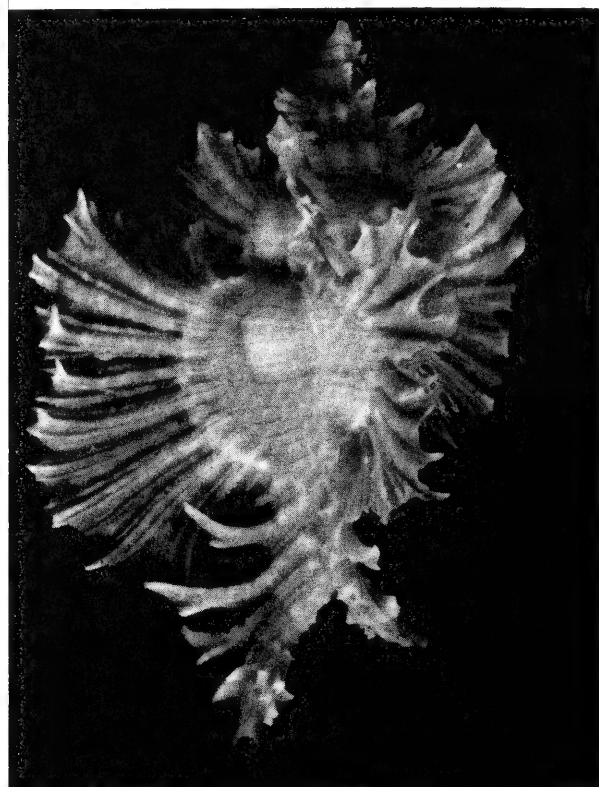
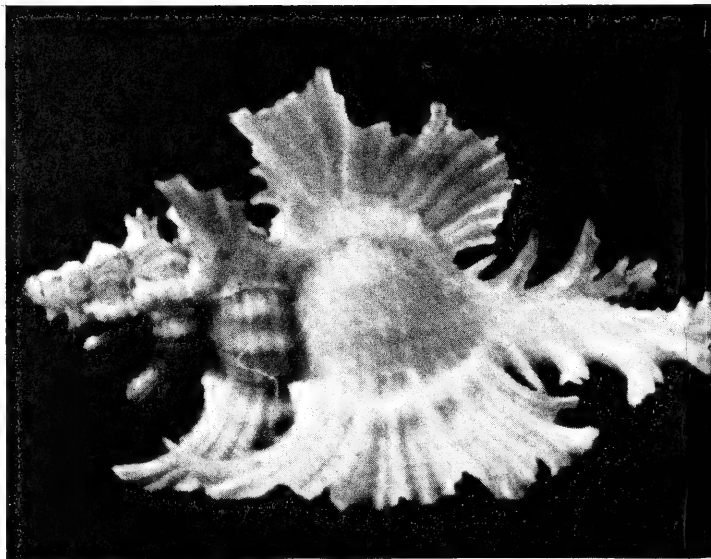


Fig. 10. *P. celinamarumai* (*orchidifloris*), AbS 83-192, another specimen, this one 37mm long and orange, from Talikud Is., Davao. Fig. 11 (below). *P. orchidifloris*, AbS 77-473, from Taiwan, a 34mm specimen.





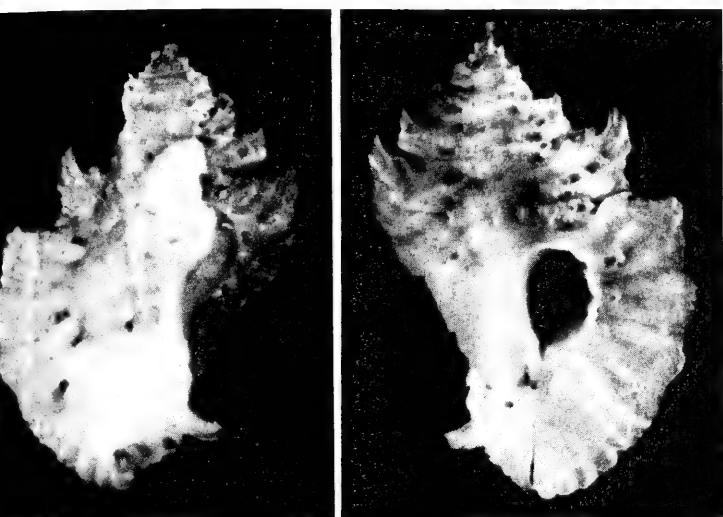


Fig. 12. *P. concavopterus*, Abs 83-868, a 15mm long specimen from Davao.  
Fig. 13 (right). Aperture view of the same specimen, and (fig. 14, below) side view.

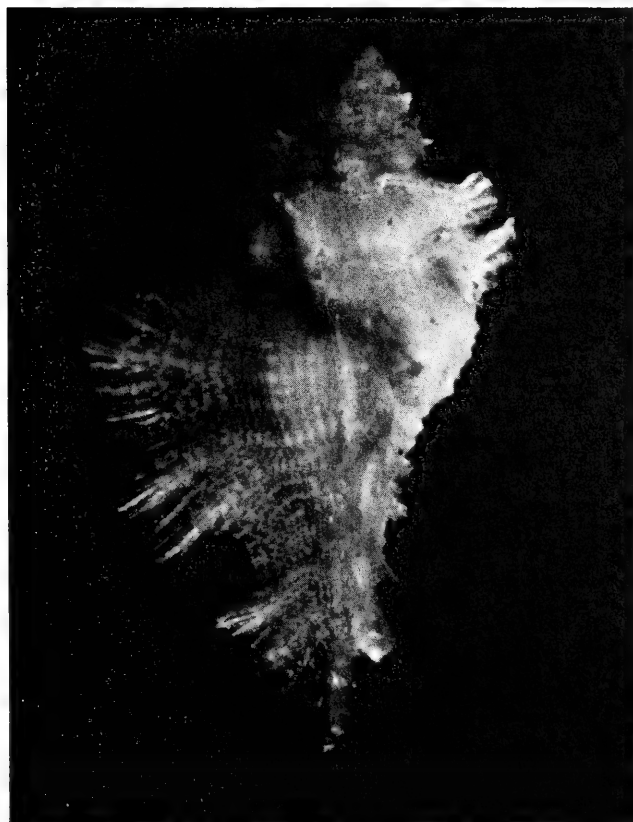
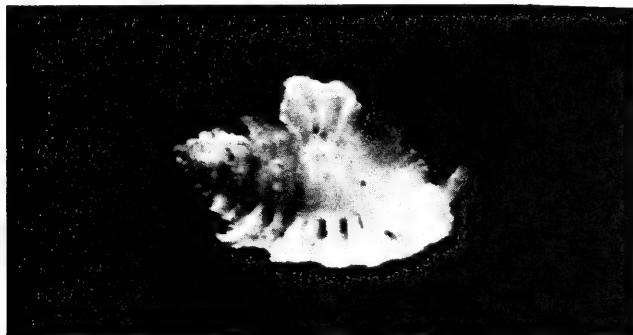


Fig. 15. *P. aparrii*, Abs 81-083, a 27.5mm specimen from Cebu.

Speaking of *Marchia* in comparison with species of *Pterynotus*, we should point out that the two genera are closely related and that some authorities list species of *Marchia* as *Pterynotus*, including the three mentioned in the previous paragraph. A species described from Japan as *Pterynotus purpureus* Azuma, 1976 also occurs in the Philippines, but it is a synonym of *Marchia barclayanus*, and therefore has not been treated in depth in this paper on *Pterynotus*. Radwin and D'Attilio, indeed, state that "*Pterochelus* and *Marchia* could be treated as . . . a subgenus of *Pterynotus*," but more of this in an subsequent article on Philippine Marchias! Suffice it to say that on our most recent trip to the Philippines we acquired the tiny shell pictured as figures 16-18 which seems to be an undescribed species of Philippine *Pterynotus*. Donald Dan, who examined the shell, suggested it may be the new species of *Pterynotus* which is currently being described (and named in his honor) by Kosuge, so evidently the last word on the subject has not yet been said!

#### REFERENCES:

- Houart, Roland, 1981. New Muricidae named after 1971, *La Conchiglia*, 13: Nos. 144-145, 6-10: Nos. 148-149, 16-17.  
Kosuge, Sadao, 1980. *Bulletin of the Institute of Malacology, Tokyo*, Vol. 1.  
Radwin, George E. & Anthony D'Attilio, 1976. *Murex Shells of the World*, Stanford Univ. Press.

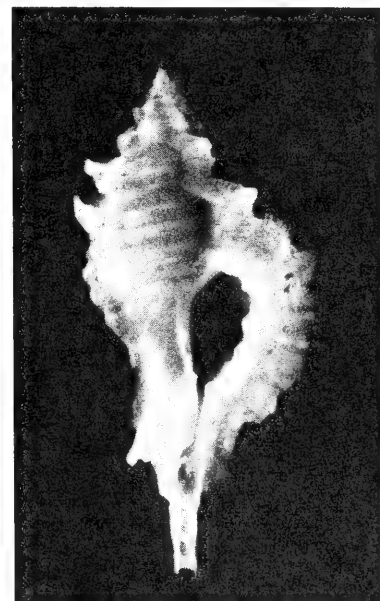


Fig. 16. A new, diminutive (18mm long) species of *Pterynotus* from Davao (Abs 84-257), top view. Fig. 17 (right): aperture view and (fig 18, below) side view of the same specimen. The shell is a pale orangey brown, white along the varical edge.

NOTE: The shell pictured as figs. 16-18 was described as *Pterochelus dondani* Kosuge in *Bulletin of the Institute of Malacology Tokyo*, Vol. 1:10, 143. May 30, 1984. In the same issue, Kosuge described *Muricopsis oliverai* (p. 145) and *Takia* (Muricidae) *bobyini* (p. 144).

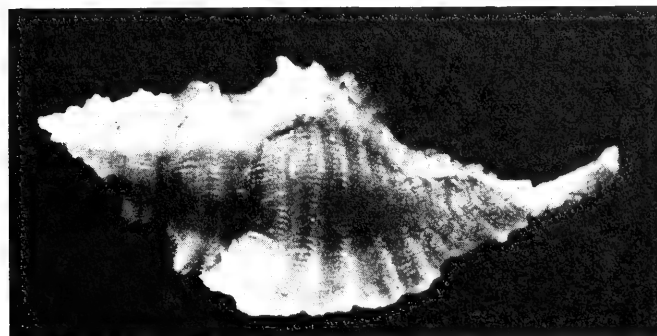






Fig. 1. Edjing Dai, an 18 year old shell dealer from Zamboanga City, Mindanao, Philippines.

#### BADJAO SHELL DEALERS OF ZAMBOANGA by C. GLASS

One of the undeniable attractions of the lovely Lantaka hotel on the edge of the harbor in Zamboanga City on the southwestern tip of the Philippine island of Mindanao are the young Badjao boys who sell shells, coral and pearls to the tourists. These Badjao people are sea gypsies who spend their entire lives on their small outrigger boats. They are literally at home on the water. I was impressed both by their knowledge of the shells they peddled as well as by their desire to learn the names of those few with which they were unfamiliar.

The young boy pictured here, Edjing Dai, is 18 years old and married with one young daughter. At the age of 16 both eardrums were ruptured during his free-diving for pearl oysters . . . to the nearly inconceivable depth of 200 feet! They accomplish this by jumping into the water carrying a heavy rock with a rope around their waist by which they are rapidly pulled back up to the surface by their buddies! Apparently Edjing was unable to equalize the pressure inside his ears on one such rapid descent. He offered to take me diving during my next visit. His only request was a pair of shoes . . . since he's never had any.

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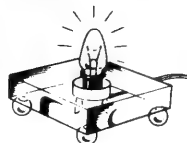


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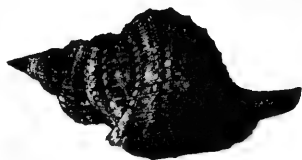
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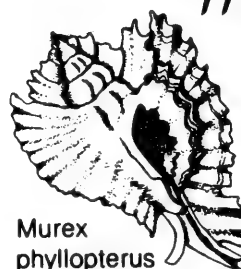


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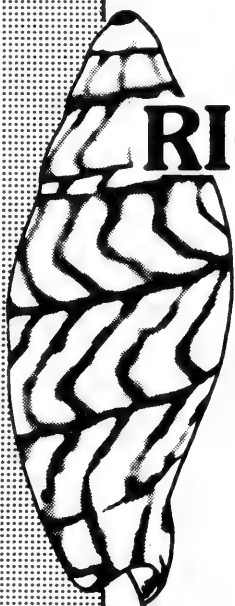
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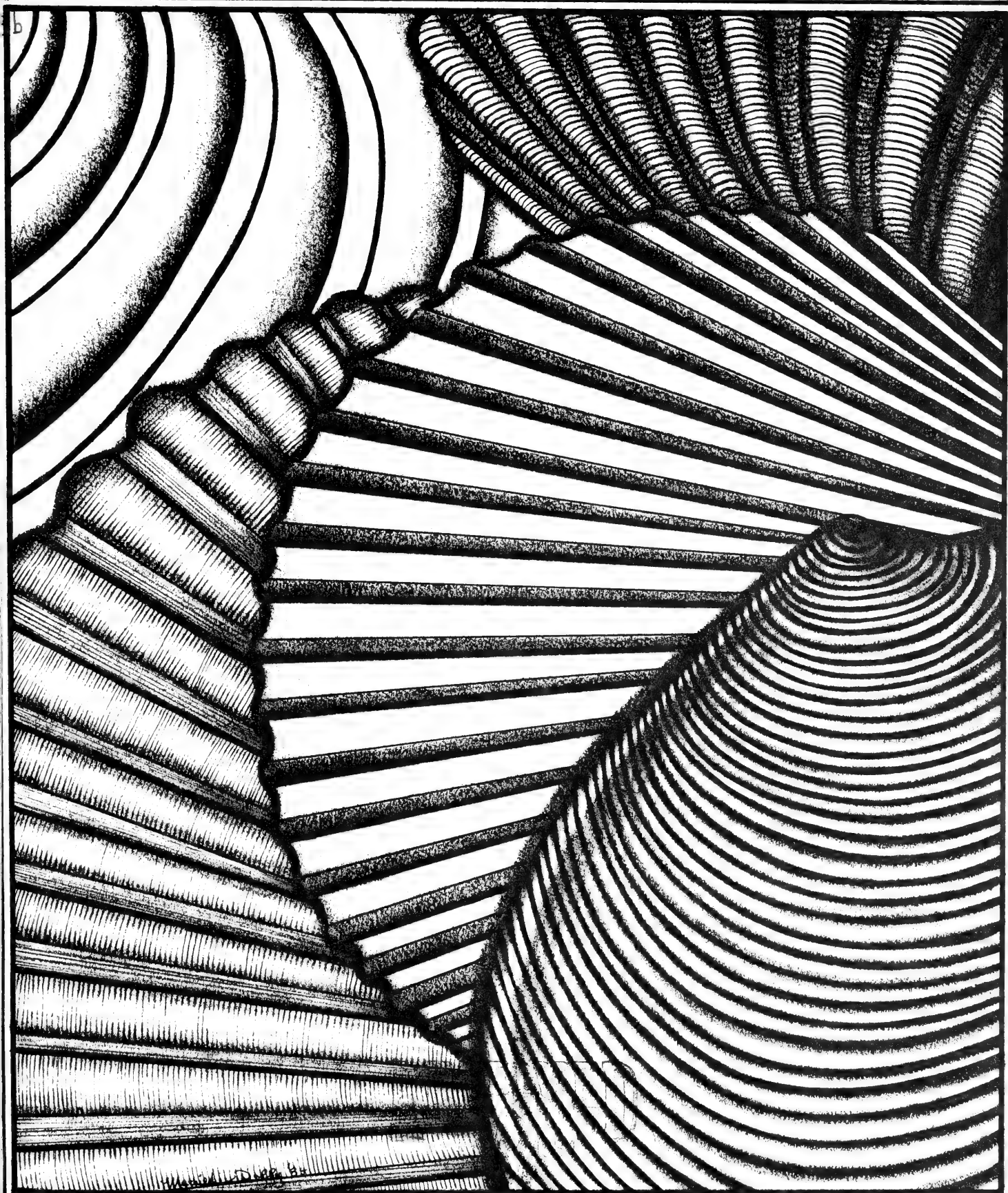
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VOL. 12, NO. 4

DECEMBER, 1984



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COVER PLATE: Conventioneers are familiar with the beautiful art of Mathilde Duffy, 4959 Commonwealth Drive, Siesta Key, Sarasota, Florida 33581, and we thought it was high time the cover of our Bulletin was graced with some of her lovely works, such as this imaginative study of bi-valves.

#### LETTER TO THE EDITOR

Dear Editors:

Regarding your article in Sept. '84 issue of the C.O.A. Bulletin concerning *Lambis arachnoides* Shikama and *Lambis wheelwrighti* Greene, I must point out that Jerry Walls and I were fully aware of the *L. arachnoides* publication at time of publication of *L. wheelwrighti*.

Since *L. arachnoides* was described as having 11 digits, there can hardly be a confusion with *L. wheelwrighti* which typically has seven digits, occasionally six or eight. Also, no specimen of *L. wheelwrighti* is known to have been found as small as 145mm, the size of *L. arachnoides* holotype. Typically, they run 180-250mm.

The photos used in the *L. arachnoides* description do resemble what is now accepted as *L. wheelwrighti*, but simply do not match the published text. These photos could just as easily be a slightly aberrant *L. truncata* or *L. lambis*.

May I also point out your article was titled "*Strombus arachnoides* Shikama" — I assume you meant *Lambis arachnoides*?

Yours truly, Joel Greene

Yes, we realized that Walls was aware of Shikama's publication of *Lambis arachnoides* and in fact quote Walls as referring BOTH *Lambis arachnoides* AND *Lambis wheelwrighti* to probable hybrids of *Lambis millipeda* and *Lambis truncata*. We were a bit surprised to learn you were aware of it since you did not cite it in your references. You claim that *L. arachnoides* was described as having 11 digits; actually, the description states "10-12." You state that *L. wheelwrighti* "typically has seven digits, occasion-

(continued on page 59)

#### EDITORIAL

As we wrote when we published our first issue of the Bulletin, we intend to make infrequent use of this column, preferring to use the space for shells. We do think that recent events on the other side of the shell world deserve editorial comment, however. Presumably you all have heard something by now of the ban on shell exports from Australia. If, indeed, ALL MOLLUSKS from Australia have been placed on the International Endangered Species list, as such they may not only not be exported from Australia (which has placed penalties of \$100,000 or 5 years in jail for law-breakers), but they, indeed, would not be allowed into this country, a signatory of the international convention for protection of wildlife.

Conservation of threatened or endangered species is certainly and undeniably a worthwhile goal. We have lived, however, through the conservation movement in the plant world and have seen where whole families, such as the Cactus Family, have been placed on the threatened list, when indeed, most members of that family are not at all, at present, threatened with extinction. The conservation laws, furthermore, have not worked with plants, as some of the very ones involved with enforcement have been forced to admit. The only ones who have been hurt are the amateur collectors and the scientists, whereas the really damaging wholesale trade has continued almost unimpeded.

So far the shell world has gone along largely unaffected by the conservation movement, thanks largely to the knowledgeable and undaunted voices of such respected authorities as R. Tucker Abbott who has argued forcefully that most shelling activities have not and could not threaten or endanger most species of mollusk.

A factor that is very often ignored in the conservation movement is the value which an interest in nature and natural objects has had for people throughout time. Most biologists were first attracted and fascinated with the natural sciences as children or young people picking up a shell on the beach or a cactus in the desert; then the interest intensifies and deepens as they become first collectors and eventually scientists. Fortunately when Darwin arrived at the Galapagos there was no sign posted, "NO COLLECTING," or we may all have been poorer. Who knows which potential Abbotts, D'Attilios, Sowerbys or Reeves we may discourage if we accept "collecting" as a dirty word. Even in the Galapagos, which are highly protected, the line against collecting is drawn at the waterline.

A second factor which, also, is too often ignored is whether or not the organisms we are protecting are in truth endangered. It should be pointed out that most molluscan habitats are out of reach, either by the limited activities of SCUBA diving or extensive "gill-netting," and that competition in the ocean is so fierce, with everything eating everything else, that when an organism is removed there is a virtual "waiting line" of veligers looking for a place to settle down! The most common shells, such as "money cowries" or "tiger cowries" which have been collected by the millions over hundreds of years are STILL common, so one could reasonably desire some proof or at least hard evidence that any species are in fact endangered before restrictive, all-encompassing and damaging laws are passed. I don't think that any of us can accept that all Australian mollusks are endangered any more than we — as plantspeople — can accept that the "Boojum tree" or *Idria* of Baja California is endangered while one can drive for hours through a boojum forest which extends over mountain range beyond mountain range from horizon to horizon. Our credulity is mocked and our respect for the law is what is threatened and endangered.

#### GOOD NEWS FROM THE PHILIPPINES

"The typhoon passed through our area but, thanks God, we are harmless!"

Places to stay in Punta Engaño, Macatan, Cebu, P.I.: "The Last Resort."

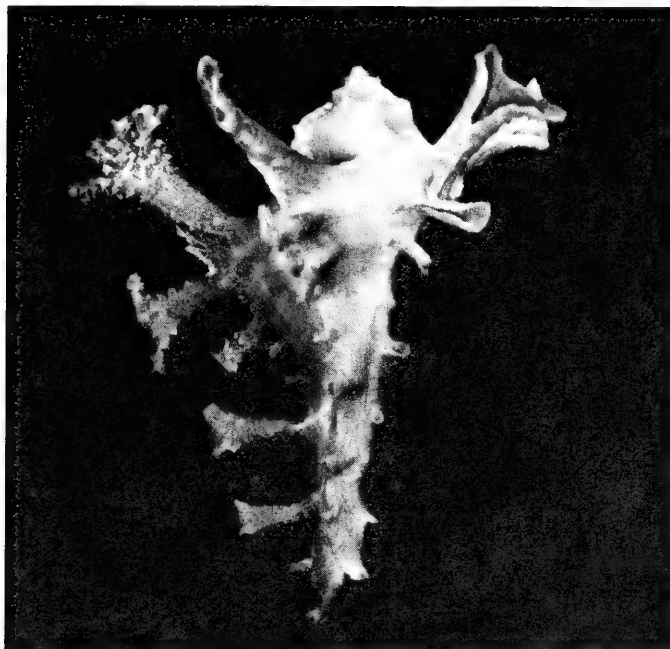


Fig. 1. *Homalocantha dovpeledi* Houart, a superb 52.7mm long specimen (AbS 84-1337) collected in 25m. off Shekem Beach, Eilat, Gulf of Akaba, dorsal view. Fig. 2 (right). Side view of same specimen figured in fig. 1 (see also C.O.A. Bull., 12:3, 37, 1984 for an example of another specimen, AbS 84-468).

## REMARKS ON THE SYSTEMATICS OF THE GENUS HOMALOCANTHA

FAMILY MURICIDAE, SUBFAMILY? MURICINAE

by ANTHONY D'ATTILIO

San Diego Natural History Museum

The most recently described species of this genus is *Homalocantha dovpeledi* Houart, 1982. It was described in *Informations de la Societe Belge de Malacologie, Bruxelles, Belgium, Series 10, No. 1-4, pp. 77-80, pl. 4*, a special number for the 10th anniversary. The description is in French and for purposes of clarification a translation of the description is included herein. Although not thorough-going, the description is adequate enough to identify the species in conjunction with the illustrations. A specimen in the Foster and Glass collection is figured herein (figs. 1 & 2).

The species is a spectacular new discovery equal to that of *Homalocantha anomaliae* Kosuge, 1979. The low spire of *H. dovpeledi* is distinctive in contrast to the laxly coiled high-attenuated spire of *H. anomaliae*, included herein as figs. 3 & 4 (see also *Bulletin of the Institute of Malacology, Tokyo, Japan, Vol. 1, No. 1, May 1979, p. 2, pl. 1, figs. 8-9*).

DESCRIPTION OF THE NEW SPECIES FROM THE RED SEA:\*

**HOMALOCANTHA DOVPELEDI** Houart, 1982

Shell of a medium size for the genus; pure brown to reddish-brown, spines sometimes darker. Oval opening; beige; columella edge entirely smooth, adhered to the shell. Invisible anal canal. Edge of external opening very lightly crenulated and striated internally. Operculum typical of the genus, with a lateral nucleus.

Shell formed with one-and-one-half whorls, smooth and rounded off, followed by five whorls strongly carinated. Deep suture, typical of the genus. Last whorl trimmed with four to five varices. Except for the first (ventral) varix, these varices support three long webbed spines in the shape of a paddle and sometimes bifurcated at their

\* Translation from the French.

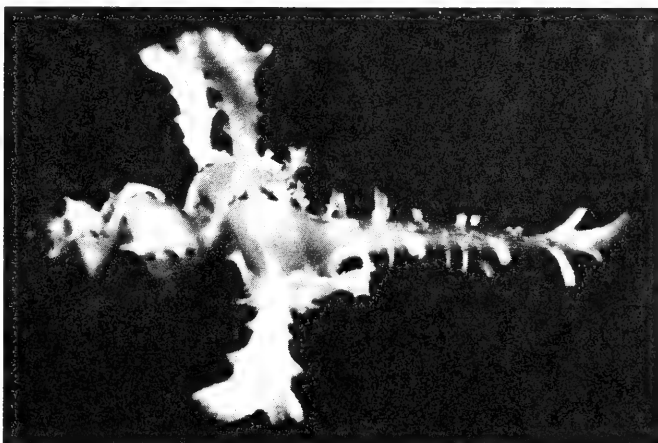
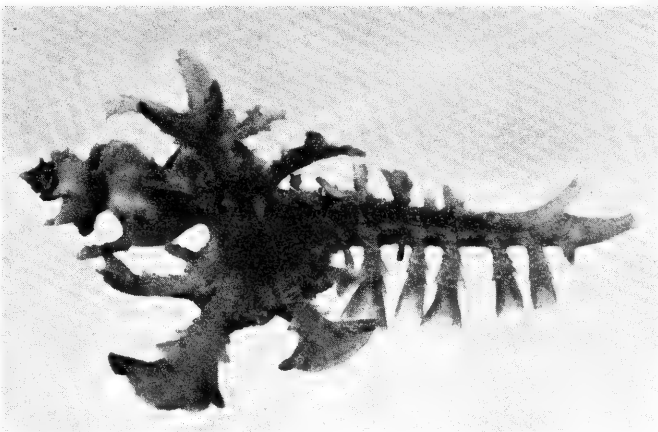


Fig. 3. *Homalocantha anomaliae* Kosuge, AbS 81-143, a 51.5mm long and most intriguing form from off Panglao, Bohol, Philippines, where it was taken in very deep water with tangle nets in 1980. Fig. 4 (below). A somewhat different, frillier form (AbS 84-289) of *H. anomaliae* this one a 56mm long specimen from Balut Is., off Davao, Mindanao, Philippines.





extremity; spines are joined between themselves by a short, fringed web. The spine situated at the carina (or posterior), is the longest, often attaining a length double that of the average length of the others.

The anterior spine is the shortest.

Last whorl connected to the preceding by a fringed web, situated above the posterior spine. No other axial sculptures.

The spiral sculpture consists uniquely of three slender obsolete sides, joining the varicular spines. It is not until the first and second whorls that these sides, then numbering two, are clearly visible.

Long siphonal canal, right, very finely open on the right; trimmed with three or four spines.

This species seems to be very rare.

Another poorly known species is *Homalocantha echineformis* Shikama, 1978. This was published in *Science Report of the Yosuka City Museum*, No. 25, pp. 36-37, pl. 7, figs. 9-10. I have not examined a specimen of this species. It is compared by Shikama to *H. melanamathos* Gmelin, 1791. *H. melanamathos* remained for many years without locality data. It was most often confused with *H. oxyacantha* from the eastern Pacific. It was rediscovered and reported on by D'Attilio, 1967, from specimens found on the west African coast (*Nautilus*, Vol. 80, No. 3, pp. 96-97, pl. 5, figs. 1-2; figs. 3-4 on the same plate are of *H. oxyacantha* Broderip, 1833).

A further undescribed but distinctive *Homalocantha* has been recently recovered in dredging operations in the Philippine Islands. I have only been able to examine photographs of this species in the possession of Mr. Robert Yin of San Diego.

Another overlooked species is *Tarantellaxis kuroharai* Habe, 1970. In the catalogue of the Coralliophilidae I published in 1978, I included this species in that family as indicated by Dr. Habe. Sometime later Dr. E. H. Vokes informed me (personal communication) that the species is more properly placed in *Homalocantha*. A study of the figure inclines me to agree with Dr. Vokes. The spire is more loosely or laxly coiled and the long spines have the palmate terminations as in *H. pele* Pilsbry, *H. zamboi* Burch & Burch, etc. It is further illustrated in Phil Clover's Illustrated Catalogue of Coralliophilidae. The citation for this species is in *Venus*, Vol. 29 (3): 85, text figs. 1, 2. Height of type is 18mm, paratype 26mm.

Although all *Homalocantha* species are related by radular and opercular characters, the shells form two distinctive groups: those with small to medium sized bodies and long spines with broadly spatulate and finger-like terminations; and the second group which have large bodies with short to medium sized spines that are sharply pointed terminally. One species from the coast of South America, *H. tortua* Sowerby, 1834 (fig. 5) has the spines reduced to short, blunt-ended projections.

Due to the ocenebra type operculum and the odd radula (see Radwin & D'Attilio, 1976, *Murex Shells of the World*, p. 54, figs. 29-30). Dr. E.H. Vokes remarked on these aberrant characters leaving the systematic position of *Homalocantha* doubtful.



Fig. 5. *Homalocantha melanamathos* Gmelin, AbS 74-1314, this 45.6mm long specimen from Lobito, Angola, West Africa, was the hypotype in Radwin & d'Attilio's *Murex Shells of the World*.

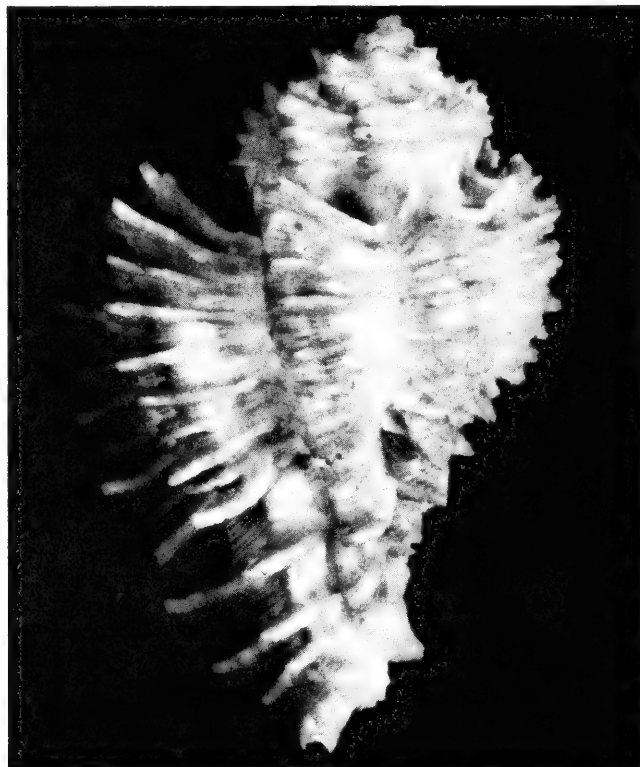


Fig. 6. *Homalocantha oxyacantha* Broderip, AbS 74-1315, another Radwin & D'Attilio hypotype, this one a large, heavy, 62.1mm specimen, a form sometimes referred to as *Murex stearnsi* Dall, from Costa Rica (Pacific Ocean).

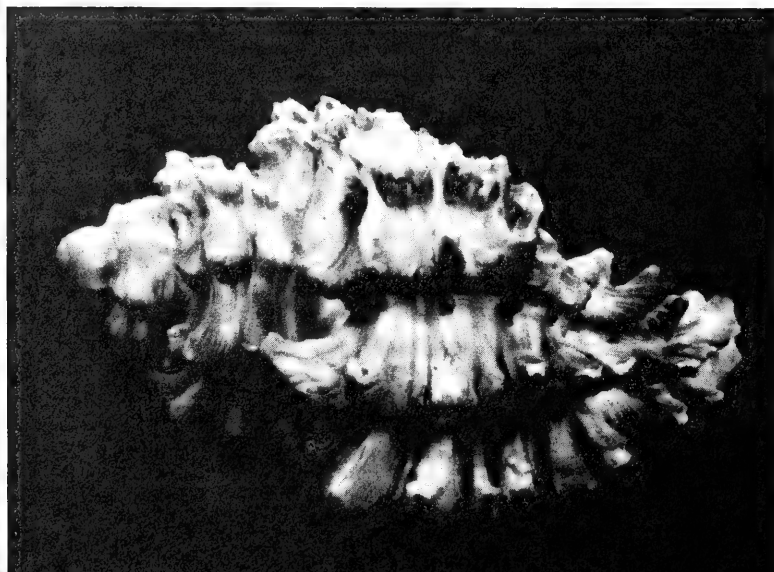


Fig. 7 (left). *Homalocantha tortua* Broderip in Sowerby II (AbS 76-1012); this 62.4mm specimen was also the hypotype both in the Radwin & D'Attilio work and in Keen's *Seashells of Tropical Western America*. It is an exceedingly rare species from Peru.



## HOMALOCANTHA

## A PICTORIAL ADDENDUM

by R. FOSTER &amp; C. GLASS

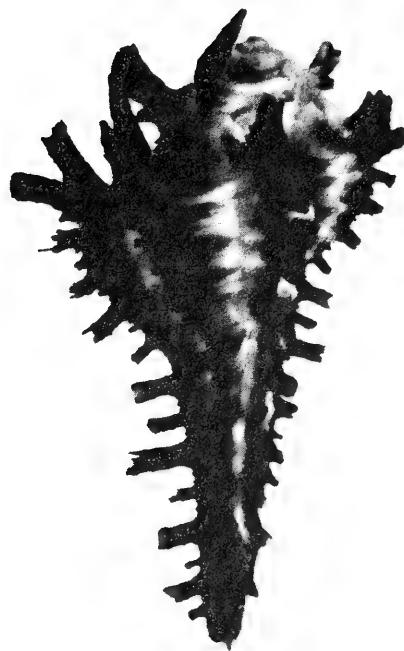
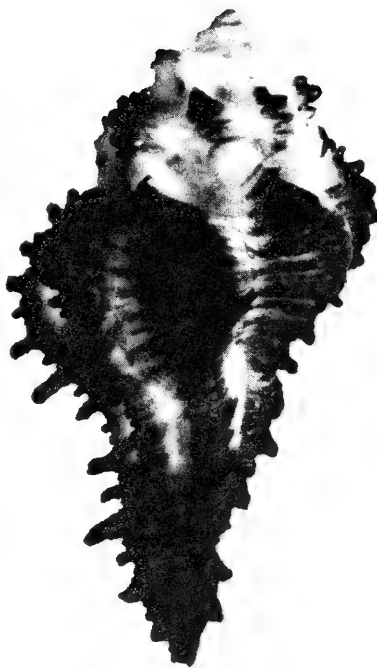


Fig. 1 (left). *Homalocantha digitata* Sowerby II was placed under synonymy of *H. scorpio* by Radwin & D'Attilio, but today most authorities tend to recognize this Red Sea taxon as a distinct species again. This 47mm long specimen, AbS 74-244, is from Dahlak. Fig. 2 (center). An unusual specimen of *H. digitata* for its lack of digitations is this 45mm long shell (AbS 84-607) from Djibouti. Fig. 3 (right). As *H. digitata* is known to date only from the Red Sea, this 42.7mm long specimen (AbS 81-2573) from Mindanao in the Philippines is undoubtedly an aberrant specimen of *H. scorpio*.

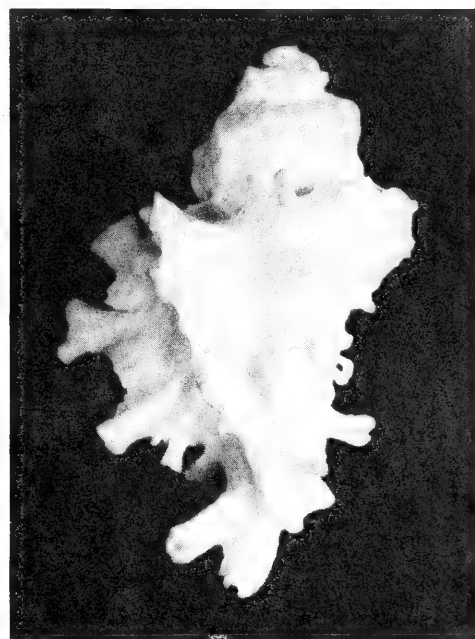
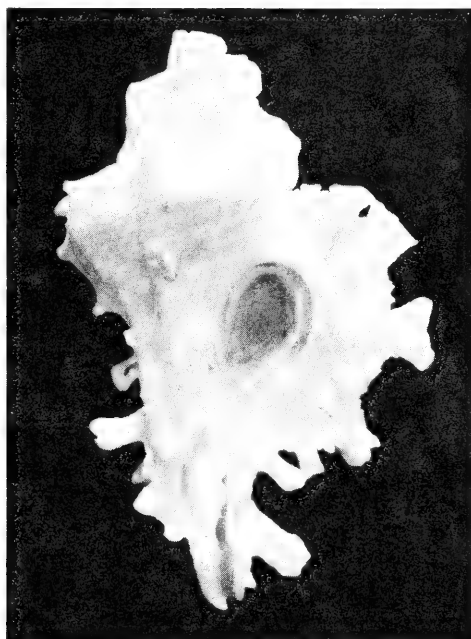
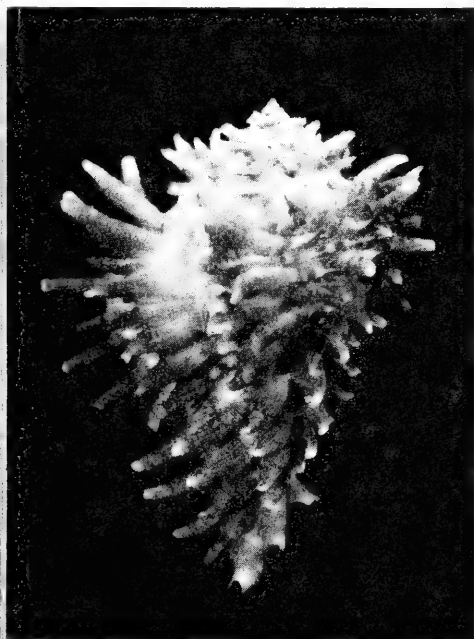


Fig. 4 (left). *Homalocantha oxyacantha* Broderip, AbS 81-2557, a 53.5mm long specimen taken on rocks at low tide at Barra de Navidad, Jalisco, western Mexico. Fig. 5 (center). *Homalocantha* sp., AbS 82-786, a 59mm long specimen taken in 4-6m on coral off Madot Island, Ethiopia, was first thought to be the little known *H. fauroti* Jeausseume but it may possibly be only a very different form of *H. anatomica* with great reduction of the characteristic digitations. Fig. 6 (right) is the aperture view of the same shell. Radwin and D'Attilio synonymize *H. fauroti* under *H. scorpio*, but the pictures of the holotype in Fair's *The Murex Book* would seem to indicate a closer relationship to *H. anatomica* or to *H. pele*.

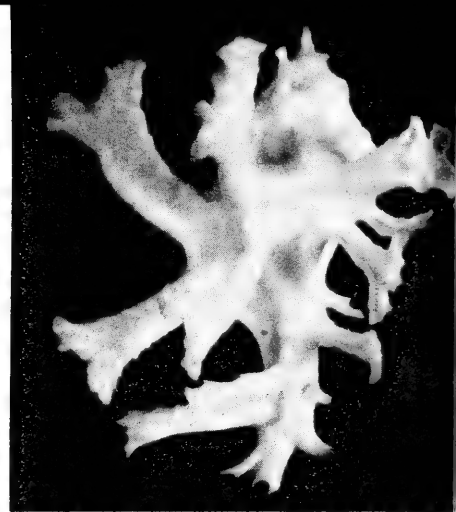
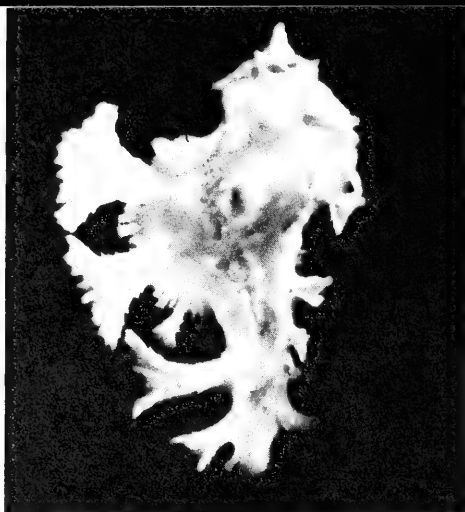


Fig. 7. *Homalocantha pele* Pilsbry, a 43.6mm specimen (AbS 79-067) from 20ft deep off Seragaki, Okinawa, Japan. Some authorities do not recognize *H. pele* as distinct from *H. anatomica*, but if one does make the distinction, shells from Hawaii and Japan would fall under *H. pele*. Fig. 8 (center). Another specimen of *H. pele* (AbS 74-665) from Kii, Japan. One gets attractive color forms of this typically white species. This 40.6mm long shell is quite red! Fig. 9 (right). *Homalocantha zamboi* (Burch & Burch) was originally described as a Philippine variety of *H. anatomica*. A main distinguishing characteristic is the pinkish orange aperture of *H. zamboi*.

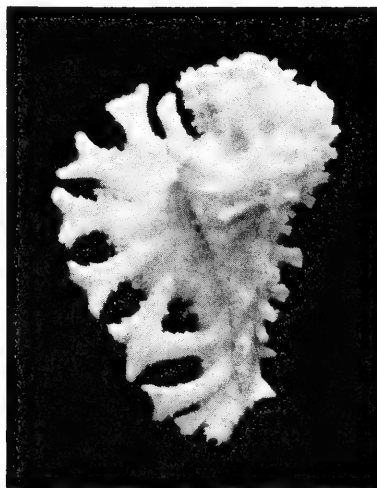
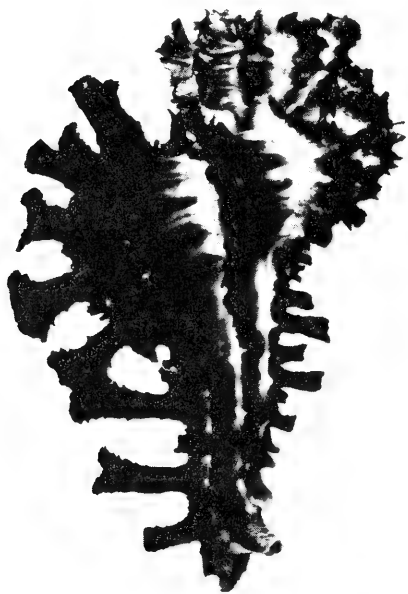


Fig. 10 (left). *Homalocantha scorpio* Linne, AbS 82-1040, a 57mm long specimen from Cebu, Philippines, originally from the Stix collection. Fig. 11 (center). An unusual albino specimen (AbS 81-152, 36mm long) of *H. scorpio* from Coron, Palawan, P.I. Fig. 12. A small (31.5mm long) deep water specimen of *H. scorpio* from Cebu, P.I. *H. scorpio* is described as having 4 digitations on the body whorl and this little shell is the first one we have seen that matches that point in the description; most have more!

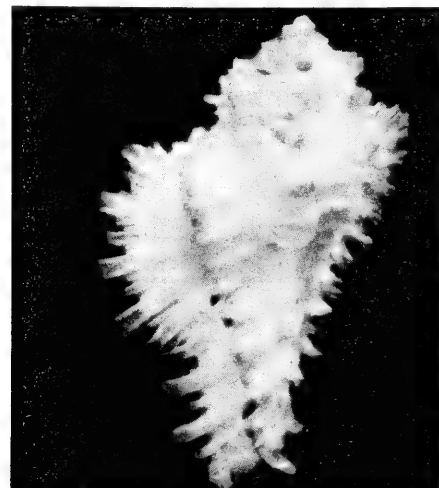
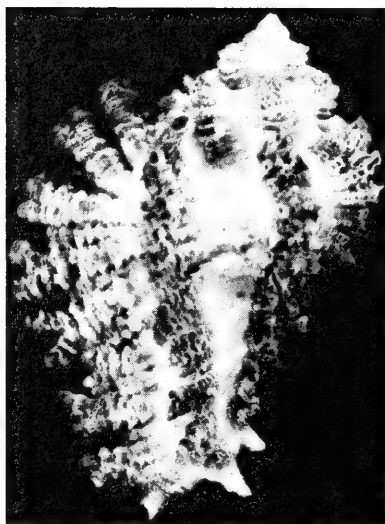


Fig. 13 (left). *Homalocantha secunda* (Lamarck), AbS 78-044, a 35mm long specimen taken from on rocks at low tide at Dampier, West Australia. This shell is tan to brown and quite ruffy. Fig. 14 (center). An unusual dark specimen (AbS 84-167, 38.1mm long) from the Bay of Bangal, India and (fig. 15, right) a white specimen (82-1727, 42.8mm), possibly the form described as *Murex lamberti* Poirer, from Rameswaram, India.

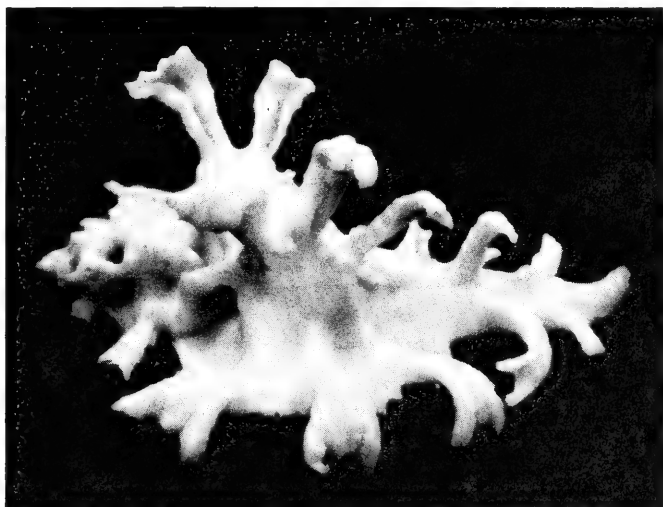


Fig. 16. *Homalocantha anatomica* (Perry), an exceptionally fine specimen (particularly for the Red Sea!), this 63.3mm long shell (AbS 84-1136) was collected at Eilat. Below is a rear-end spire-view of the shell (fig. 17)

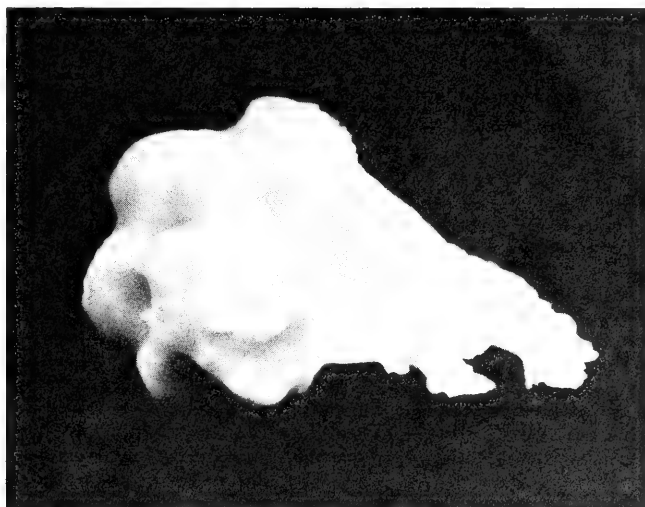


Fig. 19. Spire end view of a reddish form of *Homalocantha pele*. *H. pele* often retains the webbed digitations only on the most recent whorl. This shell (AbS 76-1459) is 39.4mm long.

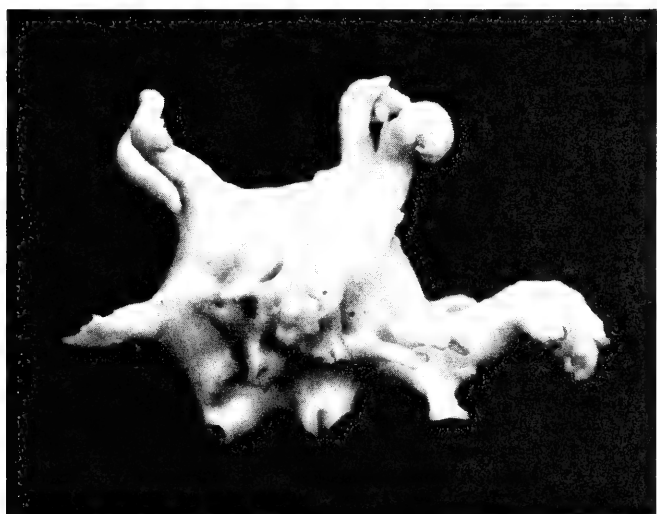


Fig. 18 (below). Aperture view of the same shell of *H. anatomica* shown in figs. 16 and 17.

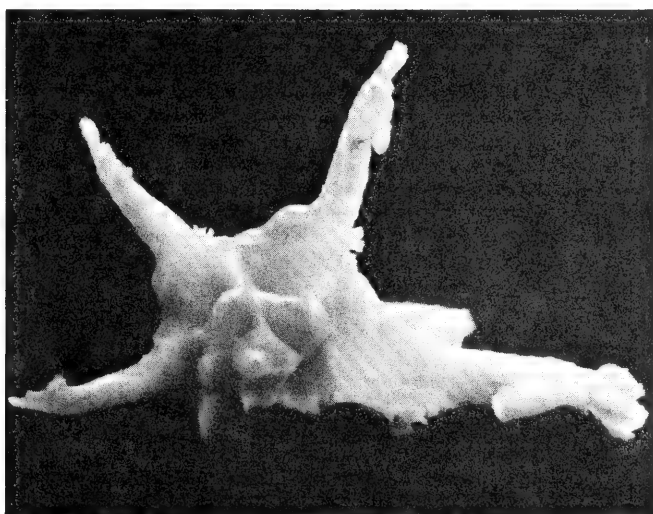
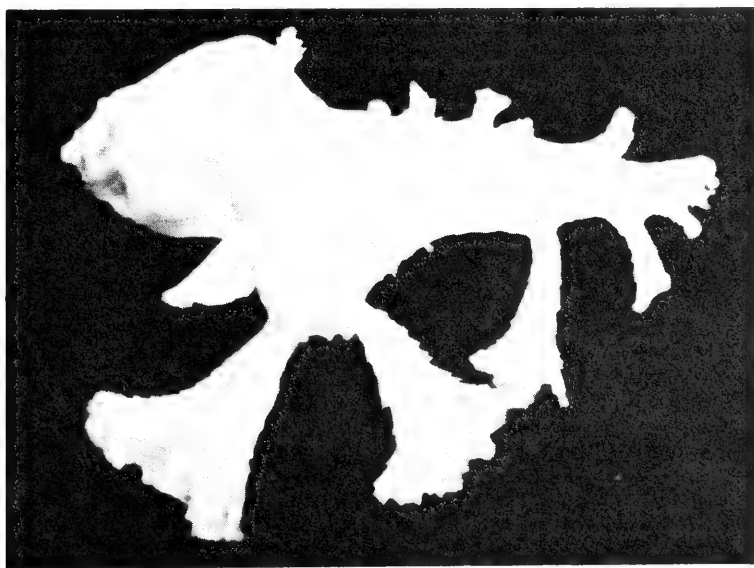
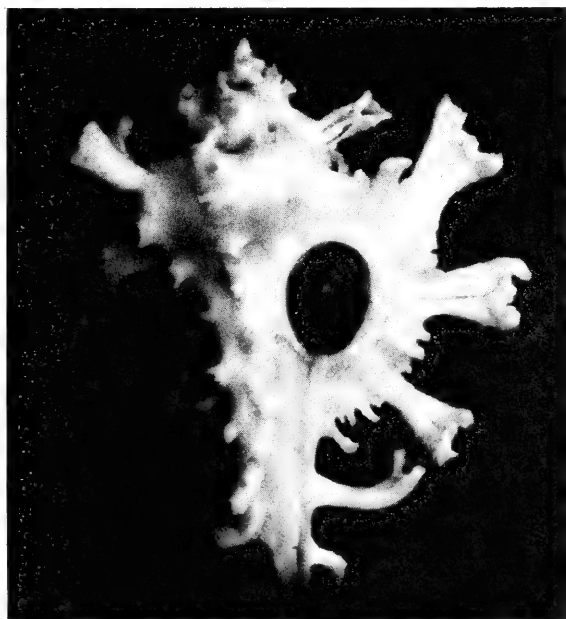


Fig. 20. Spire-end view of the same shell of *H. pele* (AbS 79-067) pictured in fig. 7. Note that this specimen retains most of its earlier digitations! Fig. 21 (below). An exceptionally large (56mm long) specimen of *H. pele* from Seragaki, Okinawa, Japan. This shell (AbS 79-066) was taken in 20ft of water.





## SHELLS IN PRINT

by RICHARD L. GOLDBERG

A number of books and publications have crossed my desk over the past year, and I thought it would be a good idea to capsule reviews on some of them.

The big news in publications is the evolution of "The Opisthobranch Newsletter" into **SHELLS AND SEA LIFE**. Editors Steven Long and Sally Bennett have turned the newsletter into a color magazine, covering a wide variety of molluscan topics. The color and black and white photographs published in the monthly issues are superb, and a live mollusk photo is featured on the cover each month. The editorial review board of the S & SL reads like a who's-who of malacology: R. Tucker Abbott, Walter Cernohorsky, Hans Bertsch, William Lyons, to name a few, are all involved in review materials submitted for publication. But this should not scare off the non-scientific collector, since the articles and information are written in a widely understood format. Since January 1984, the magazine has progressed into one of the nicest shell publications in print. According to the editors, the magazine will be expanding from 24 to 32 pages per issue, and from four to eight pages of color, by the year's end. Between the excellent articles, and great photographs, I highly recommend "SHELLS AND SEA LIFE" as a must on your subscription list. Write S & SL, 505 E. Pasadena, Phoenix, AZ, 85012 for further information.

**THE STRANDLOPER**, Bulletin of the Conchological Society of Southern Africa, has once again started publication after a bit of a hiatus during which a reorganization of the newsletter staff took place. The October 1983 issue (#211) has a comprehensive article on the Haliotidae of South Africa, by Jessica Jacks. The June 1984 issue (#212) has an article entitled, "Cymatiidae of South Africa," and includes two color plates illustrating 25 species of Cymatids. Numerous additional black and white plates are included. This is the third color issue published by the Society (two previous issues were on Conidae and Marginellidae of South Africa — see my review in issue no24, June 1981 of the COA Bulletin). For further information write the Editor, Strandloper, P.O. Box 1200, Cape Town, 8000, South Africa.

**ROSSINIANA**, Bulletin of the Conchological Association of New Caledonia is published four times per year, and has many articles on the molluscan fauna of New Caledonia and other areas. Articles are written in French and English, and issues are sent free to members of the Association. Recent articles published in **ROSSINIANA** have included a series on the Pectinidae of New Caledonia, Geographical Variation and Taxonomy of the *Placostylus* in N.C., the *Conus marmoreus* Complex, and recently, descriptions of new species of mollusks, i.e. *Conus boucheti* and *kanakinus* and *Chicoreus boucheti*, all found in the waters of New Caledonia. The issues are illustrated throughout with black and white photographs and with a color cover. There are always articles of interest and I recommend looking into this one if you are serious about your shell collecting. Write L'Association Conchyliologique de Nouvelle-Calédonie, B.P. 146, Noumea, New Caledonia.

If you are well versed in the French language, **XENOPHORA**, Bulletin of the Association of Conchology of France, is another interesting publication with many articles of interest to the serious collector. The articles cover a wide variety of molluscan topics and as mentioned are written in French. Each issue is illustrated with many black and white photographs, and recent articles have included authors recollections on past collecting trips, to overviews of various families of mollusks, including the Nassariidae of French Polynesia, and the Distribution of the present-day forms of *Erronea caurica* - Cypraeidae. Many news notes and other information make this another good source for information to the serious collector. Write Association Francaise de Conchyliologie, 50 rue Richer, 75009, Paris, France.

I will cover more publications in future "Shells in Print," as there are many more that deserve mention. I should also mention that if this is the first time you are reading the **C.O.A. BULLETIN**, the articles and illustrations in this issue are just a taste of what is published quarterly. Our own C.O.A. Bulletin is another excellent source of shelling information, and has articles aimed at the beginning collector, as well as advanced collectors. For those of you who are long-time members of the C.O.A., why not introduce a shelling friend to our publication and organization. It might be the greatest gift you can give them.

I must make mention about a book entitled **Colored Illustrations of the Land Snails of Japan**, by Masao Azuma, published by Hoikusha Publishing Co., Ltd., in 1982. This book first came to my attention when a shelling

friend of mine returned from Tokyo with a copy. The book covers all of the known species of land mollusca of Japan, with some of the finest color photographs of land shells published to date anywhere. It also has color illustrations of approximately 40% of the species with the living animal. The short descriptive text for each species is in Japanese, but as the old adage goes, "the Latin is in English!" It is beautifully bound with a plastic transparent book jacket, a durable hard cover, a slip cover and a tassel bookmark — this is one of the classiest books I've seen published in years!

The book is one in a series of similar publications on the fauna and flora of Japan. The only problem with the book is that it is, at this writing, almost impossible to obtain unless you know someone in Japan. I wrote the publishers for information on purchasing a copy but never heard from them. Out of desperation, I wrote to my shelling contact in Japan who, knowing of my interest in land shells, sent me a copy. For a book with 64 high quality color plates and 333 pages, it is relatively inexpensive (I believe it is under U.S. \$30.00) depending on the current exchange rate of the Yen. Contact your favorite book dealer for this one, and good luck on tracking a copy down. I totally recommend this one without reservations, and it will be worth the time and effort to obtain it.

With all of the good news on publications, it is sad to hear that **OF SEA & SHORE** has ceased publication. For many of us it was the first publication that introduced us to the world of conchology and certainly has made its mark in the shellers' literature. As far as is known, this *does not* affect any other OS & S publications (*Sheller's Directory* and *Catalog of Dealer's Prices* . . . ). Thank you, Tom Rice, for so many years of enjoyable reading!

## BOOK REVIEW

**COLLECTIBLE SHELLS OF SOUTHEASTERN U.S., BAHAMAS AND CARIBBEAN** by R. Tucker Abbott 64pp. 103 color plates, paperback, August 1984. American Malacologists Inc., Florida. Regular edition, \$4.95; waterproof, plastic paper edition, \$8.95.

Where would the shell world be without our R. Tucker! For one thing, our libraries would be rather sparse. This newest work, covering 300 species of Mollusk with gorgeous color plates and adequate if brief discussion, is not only a useful tool for the reef-walker or beach-comber (or mud-flat slosher), but an attractive, informative guide for the arm-chair collector. Common and scientific names are given along with author and date, habitat and relative availability, and there are sections on collecting, cleaning and storing shells and on Florida tree snails and fossils. The waterproof edition is for those who want to take their guide along on boat or beach and not have it ruined by splattering, splashing or raindrops . . . SCUBA divers might even want to take it down below with them as an on-the-spot reference!

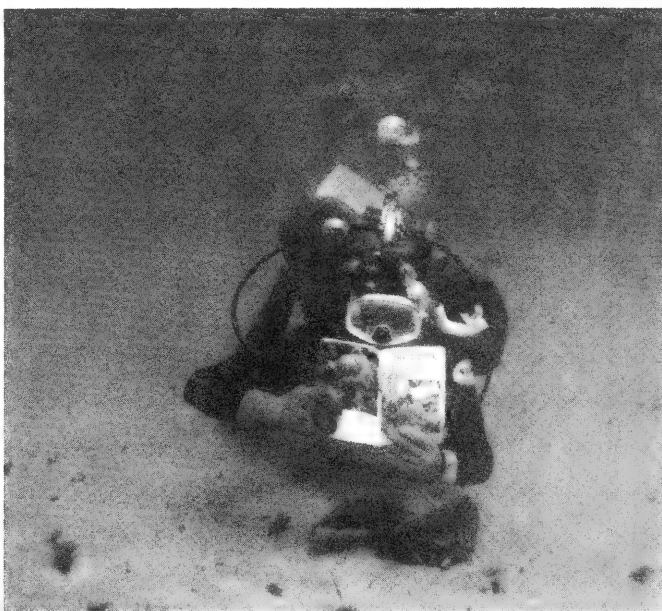


Fig. 1. Your editor checks the identity of some shells with the aid of R. Tucker Abbott's excellent new *Collectible SHELLS of Southeastern U.S., Bahamas & Caribbean* (waterproof edition!). Photo Tom Conrad.



## HELPFUL HINTS FOR SHELL COLLECTORS

by MINICYP

### CHEMICALS FOR SHELL COLLECTING

This is the restart of a column that sort of got lost a couple of years back. Now that the author has retired it is hoped (by the author) that the column will be written and therefore published on a regular basis. It is also hoped that the readers will have questions and/or comments on the column.

Now let's talk about some of the chemicals which are useful to shell collectors. Chemicals serve four quite different purposes in shell collecting. The first is to remove the organic matter from both the outside and the inside of the shell. This organic matter includes foreign growths on the exterior of the shell, the periostracum, of the shell and the soft parts of the animal. The second use of chemicals is to remove the limey deposits from the shell. The third reason for using chemicals is to brighten and preserve the shell. The last is help restore the shell's color. Chemicals are also used to preserve the soft parts of the animal. These chemicals will be covered in a later column.

Most all of the chemicals that will be discussed in this column are potentially dangerous. It is wise to wear glasses and rubber gloves when handling the chemicals discussed. Most should be used only in well-ventilated areas. The user should avoid inhaling the fumes. The stuff should be kept out of the reach of children. Never mix chemicals unless you know exactly what you are doing. In other words be careful!

Going back to removal of organic matter, the first use of chemicals, the most common and the most satisfactory material for removal of organic matter is liquid household laundry bleach. These bleaches are solutions of sodium hypochlorite in water. Used at full strength there is almost no possibility of damaging the shell. There are a few cases reported where the colors in the shell were bleached out or the nacre was discolored when using full strength bleach. Thus if you are using bleach on a valuable or delicate shell it would be wise to use a dilute solution of bleach (1 part of bleach to 4 parts of water) and keep a close watch on the proceedings. Bleach is just as effective when used diluted, it just takes a little longer to do the same job. It should be remembered that bleach will destroy both the operculum of many species and the ligaments of bivalves. Thus the operculum should always be removed before putting the shell in bleach. The ligaments of bivalves can be coated, both inside and outside with vaseline before dipping. It's always good practice to remove a shell from bleach as soon as the bleach has done its job.

Commercially strong caustics (potassium hydroxide and sodium hydroxide, the chemical names of lye and caustic soda, the commercial names) are used to remove the organic matter from shells. These are both dangerous materials and there is no reason to use either of them since bleach will do an adequate job.

If one is shell collecting in an area where liquid bleaches are not available and one wishes to clean the catch before returning home, a suggestion: you can buy solid sodium hypochlorite at some hardware stores. Make up ½ oz. packets of the solid to carry with you. In the field dilute — dissolve in one quart of water. Presto — liquid bleach.

The basic tools for removing limey or mineral deposits from shells are the wire brush, the dental pick, or, in desperate cases, a hammer and chisel. The chemical tool to supplement these mechanical tools is acid. Will the readers who have gone into orbit please come down and read further.

Acid of any kind, including such things as vinegar and lemon juice, will attack and damage a shell. Acids will destroy the nacre. A wire brush or a dental pick will also damage a shell. A weak acid, properly used, can be an aid in removing unsightly mineral deposits from a shell. The damage to the shell can be less than that caused by a purely mechanical removal method.

Strong acid should never be used except in the most unusual circumstances. Offhand, I cannot think of what circumstances would be unusual enough to justify the use of strong acid. Acid should never be used on cowries, olives, marginellas and similar species. The nacre of shells should be protected with vaseline. Acid must be used judiciously and carefully.

A weak solution will be satisfactory for practically every circumstance where the use of acid is necessary. Probably the best acid to use is muriatic acid (hydrochloric acid) diluted 20:1 with water. In diluting acid always pour the acid into the water. Never pour strong acid into water. Dilute muriatic acid will dissolve most mineral deposits found on shells and the residue can be washed away with water. Muriatic acid is available at most hardware stores. If you don't want to make up the dilute solution, many druggists will make up a 20:1 solution for you. Vinegar will also work but not quite as well as the muriatic acid.

To apply the dilute acid use a cotton swab (Q-tip). This serves two purposes. First it effectively limits the amount of acid that contacts the shell.

Secondly, it enables you to apply the acid only to the specific area where you want to remove the limey deposit. You are in control. Never dip a shell in the acid.

The appearance of almost any shell is improved by a light coating of oil. Probably the easiest to procure, and as good as anything, is ordinary baby oil. It has the further advantage in that it can be removed with soap and water. Baby oil is best applied in a dilute form. If applied this way the shell will not have an oily feeling and will look normal. Oil serves to conceal the whitish film found on many shells, heighten the shell color and generally improve the appearance of the shell. Shells which have been oiled also seem to hold their color better.

Baby oil can be diluted with lighter fluid. Again a 20:1 dilution ratio is good. This mixture is flammable and should only be applied in a well-ventilated room away from any flame. Some publications have suggested the use of benzene, carbon tetrachloride or acetone to dilute the oil. All three of these chemicals are toxic and should never be used to dilute your oil.

With cowries, olives and marginellas and the like, it is easiest to just wipe the shell with a lightly oiled rag, no-no's for coating shells include silicone fluids, furniture polish, wax, varnish, etc. All are very hard to remove from the shell and some may damage the shell.

Oil also serves to keep the ligaments of bivalves from drying out and cracking. However, glycerin is better for this purpose. Oil also will keep the periostracum from drying out. A much better treatment for preserving the periostracum is to dip the shell in a solution of paraffin in xylene. The ratio is 1 oz. of paraffin wax (canning wax) in one quart of xylene. Allow the wax to dissolve in the xylene and stir the mixture well before using. Again this is a flammable mixture and should only be used in a very well-ventilated area away from flame. It's also a good idea to keep your fingers out of the mixture and don't inhale the fumes. After the shell is dipped in the mixture it should be set, periostracum up, on a porous surface (paper towel) and allowed to dry. Remember, if you intend to preserve the periostracum you cannot use bleach to clean the shell.

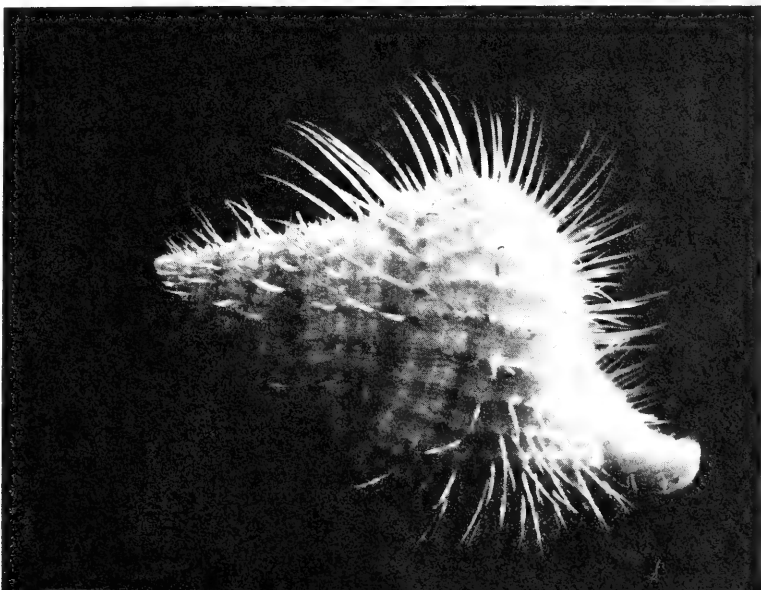
To restore the color in a shell try soaking in distilled water. With some shells this trick works wonders. The shell should be carefully washed with warm soap and water before soaking. Only distilled water should be used. Prolonged soaking in tap water will cause some shells to discolor. The shell should be totally immersed in the distilled water and care should be taken to fill the inside of the shell with water. It takes 24 to 48 hours of soaking to restore the color.

And one final hint: to kill the odor of the small shells, where you can't get them clean, try dropping a couple of drops of nail polish into the shell.

In the next issue we will cover data slips. The following issue will be nomenclature. If you have a pet subject you would like covered drop me a line and I will try to put a column together. Write to:

R. H. JONES  
1432 Dorsch Rd.  
South Euclid, Ohio 44121

Fig. 1. A small (33.8mm long) specimen of *Distorsio perdistorta* Röding, Abs 84-417, with preserved periostracum, from deep water off Balicasag Island near Panglao, Bohol Philippines.



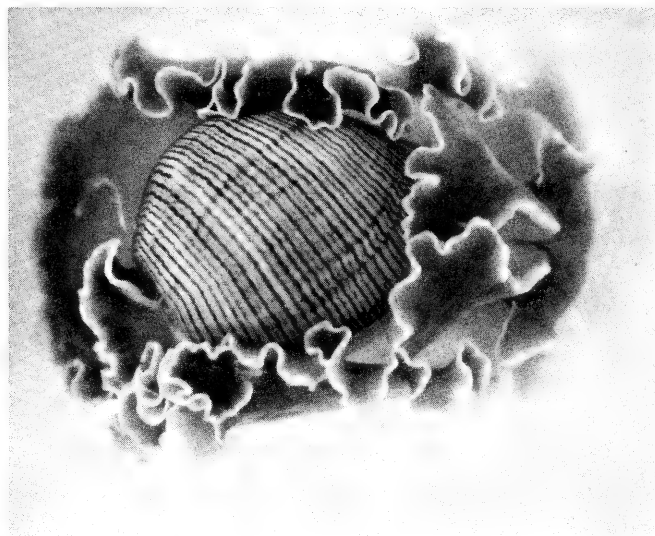
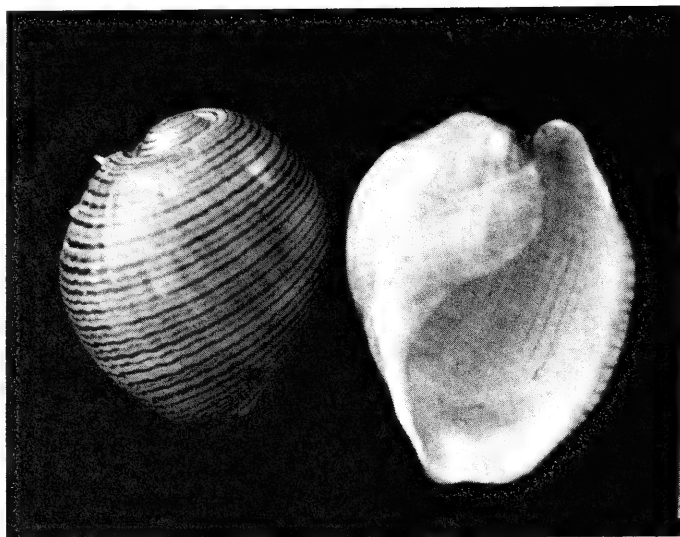


Fig. 1 (left). Shell of *Hydatina vesicaria*. Fig. 2 (right). Live *H. vesicaria*.

## OBSERVATIONS ON HYDATINA VESICARIA LAYING EGGS

by BEATRICE E. WINNER

342 Southwind Dr.

North Palm Beach, Florida

**ABSTRACT:** A total of six *Hydatina vesicaria* (Lightfoot, 1786) were captured. These six opisthobranchia laid eggs in a most unusual manner. An account of the event and a description of the egg masses follows:

A colony of *H. vesicaria* were spotted south of the Blue Heron Ridge, Riviera Beach, Florida on the 2nd of May, 1983. Two live hydatinids, 35 egg masses, and 15 empty shells with broken lips were on hand. One had a part of its foot missing. I took the two live hydatinids and placed them in a one gallon tank by themselves. The water temperature was 76°.

May 3rd: I returned to the area. Eggs laid in ribbons were in clusters. All were firmly attached by a stem into the substrate to a depth of 4-5 inches. It was impossible to pull a mass out of the sand without tearing it apart. The lengths varied from 127-200 mm, widths 13-22 mm, and the thicknesses from 1-2 mm. The water temperature registered 72°.

In my aquarium, the hydatinids discovered the previous day began laying eggs. They were in an "up-side-down" position. The foot was completely expanded like a protective covering over the eggs.

May 5th: Many egg masses have disappeared from the beach area, only 12 were found. There were two empty shells with broken lips, and four hydatinids. The four hydatinids were placed in my aquarium and all laid eggs in this "up-side-down" position. The immense foot was fully expanded. When viewed from above eggs cannot be seen.

In 1980, I entered an exhibit in the Palm Beach County Shell Club. The subject matter was Opisthobranchia. Two live *H. vesicaria* were found by a club member Mary Ann Tanning, who loaned them to me for the shell show. The following day at the exhibit hall they were in this "up-side-down" position. I presumed they were dead, but a second look showed egg masses under the hydatinids.

May 7th: It took 48 hours for the larvae to commence spinning in the oothecae. There were 20-30 eggs in each cell. In the smaller masses there were less eggs per cell.

May 8th: Veligers are still in the oothecae since May 3rd. Constant and periodic vigilance showed that it took 15 days for the

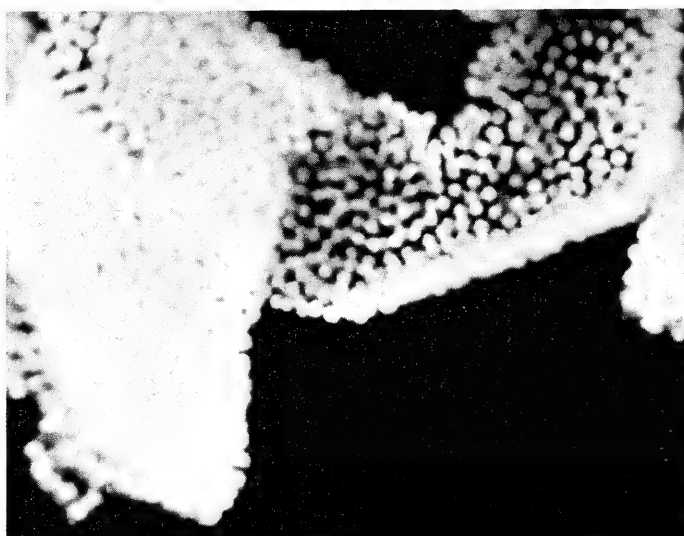


Fig. 3 (above, right). Gelatinous egg masses are in ribbons.

Fig. 4 (below, right). Close-up view of egg mass.

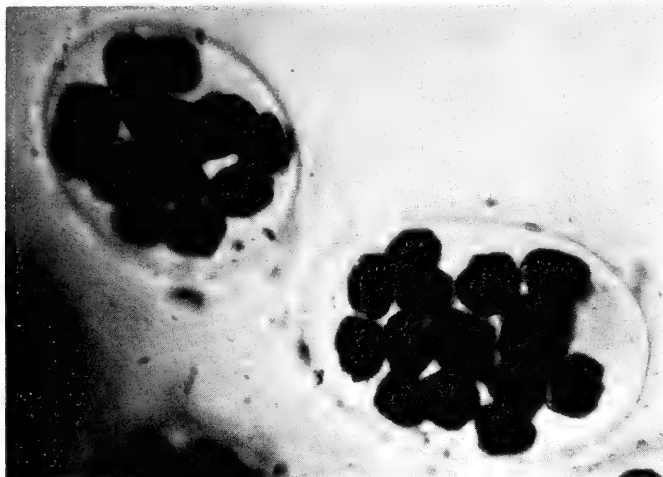


Fig. 5. Egg cells under microscope.

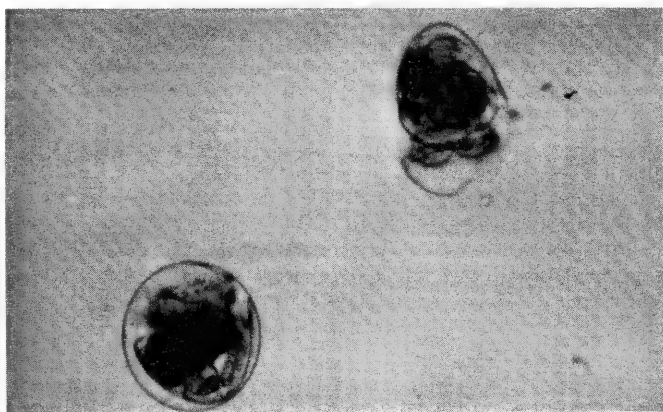


Fig. 6. Veligers (upper right is still in cell).

veligers to escape from their cells. The veligers are bilobed. The protoconchs measured 70 microns.

#### CONCLUSION

This "up-side-down" position of laying eggs was observed eight times. It is an undeniable fact. It was theorized that this may occur only in captivity, but Gloria Scarboro, of the Astronaut Trail Shell Club of Brevard, claims that she observed hydatinids in this same position at Jupiter Inlet, Florida.

Because the stems of the egg masses are attached into the substrate, the possibility exists that it is expedient for the hydatinids to lay eggs in this position.

LETTER: (cont. from page 50)

ally six or eight," but in your description, under "Remarks and Diagnosis," you mentioned one specimen with nine digits. Nine is getting pretty close to "10-12!" And one must also speculate as to what Shikama accepted as a digit for the illustration accompanying his description shows  $7\frac{1}{2}$ , well, call it 8 obvious digits and 2 or 3 of what we would call "bumps!" As to your dismissal of that photograph as possibly "a slightly aberrant *L. truncata* or *L. lambis*," we do think that one must accept the illustrations as portraying the holotype and the only specimen cited in the text, in which case Shikama's measurement of "145mm high and 100mm wide" is obviously in error for the shell pictured as "X0.52" is indeed 100mm wide but slightly over 200mm high! A *Lambis* 100mm wide and only 145mm high would be unusual in the extreme! ( . . . and editor's do, unfortunately, make mistakes! We apologize for the C.O.A. Bulletin Editor's mushy-headedness in referring to "*Strombus arachnoides* Shikama" in the title of the article in question and in the captions. It obviously should have been "*Lambis arachnoides* Shikama," and thank you for calling this to our attention. However, we stand behind everything else we stated in the article.)

The Editors

## CALIFORNIA SEASHELLS, PART VII: MITRIDAE

by C. GLASS & R. FOSTER

### *Mitra idae* Melvill, 1893

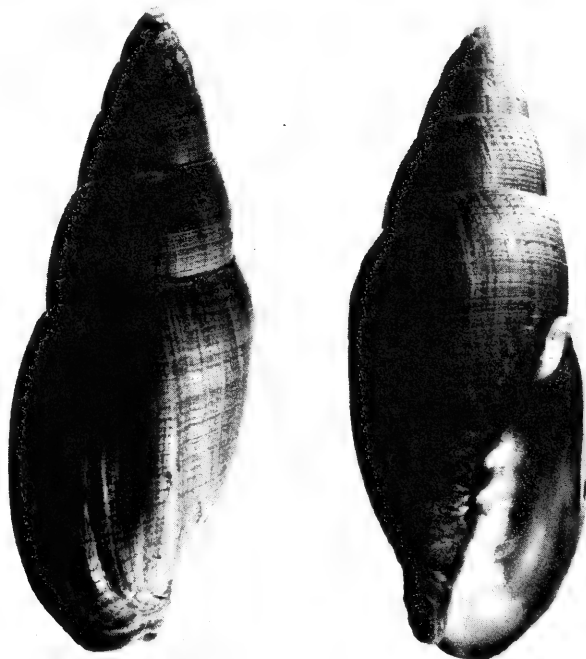
The lone California miter, or "Ida's Miter" if you will, is a relatively heavy shell to 60 or 75mm long, with 3 strong columellar folds. The shell itself is a dark slate gray to dark brown, but covered with a thick, adherent, pitch-black periostracum. Abbott does, indeed, recognize a second California species of *Mitra*, *M. fultoni* E.A. Smith, 25-37mm long with rows of evenly spaced, microscopic pits over the entire spire and body whorl whereas he describes *M. idae* as having pits only on the spire and upper body whorl; the range for *M. fultoni* is given from San Diego to Panama. There have also been described a *Mitra catalinae* Dall, *M. diegenensis* Dall, *M. coronadoensis* Baker & Spicer, *M. semiusta* Berry and *M. montereyi* Berry, none of which are generally recognized. Abbot gives the range of *M. idae* as Farallon Islands (off San Francisco) to San Diego, listing it as uncommon offshore; McLean lists it from Crescent City, northern California to Cedros Island off Baja California.

We have found *Mitra idae* to be rather ubiquitous, finding it at most localities we have dived, sometimes in considerable numbers such as in 30-40 ft. at Little Coho Anchorage west of Santa Barbara. Gem specimens, however, are rare, particularly in larger shells as the species typically has eroded blotches as well as the tip of the spire. The animal is white, making an attractive contrast to the black shell.

There's not too much that can be said for Ida's miter . . . except that it's California's most beautiful species of *Mitra* . . . the only one we've got, and better than nothing.

#### References:

- Abbott, R. Tucker, 1974, 2nd edit., American Seashells. Van Nostrand Reinhold, New York.  
McLean, James H., 1969, Marine Shells of Southern California, Los Angeles County Museum of Natural History, CA.



Figs. 1 & 2. Dorsal and apertural views of *Mitra idae* Melvill, a 61.2mm long specimen (Abs 81-196) collected on reef in 20-25 ft. off Refugio Beach, Santa Barbara County, CA, leg. Glass & Conrad, April 1981.



## C.O.A. GRAND TROPHY WINNERS

Jacksonville Shell Show, Jacksonville, Florida, July 27-29, 1984

Winners: Sue and Bill Vaughan

Title of Display: "Collecting Seashells in the Hawaiian Islands"

The many photos, 3-dimensional replicas, and a video movie showed what the live mollusks look like beneath the lovely Hawaiian waters. A great variety of shells were displayed, from tiny Triphoridae to the large and lovely *Cypraea tigris*. The 40' exhibit also included a 4' aquarium with more mock-ups that showed where the mollusks live.

Sue and Bill love shell collecting and especially love Hawaii, planning to live there in the future. Traveling there for business and pleasure they met many friendly and helpful Hawaiian shellers. After studying books to understand the islands and its mollusks for 5 years, they decided to put the exhibit together. "The hardest part was getting common and small shells," said Sue, "but after digging through collections, sending out want lists and trading with collectors all over the world, it all came together." Sue and Bill belong to the Georgia Shell Club, where they have been members for 3 years, they are also members of the Hawaiian Malacological Society, and corresponding members of the Jacksonville Shell Club.



Fig. 1. "Award winning exhibit." Besides the COA award, the exhibit received the duPont Trophy at the Georgia Shell Show in March, and also proudly displayed on their wall are the Exhibitors Award and People's Choice, also won at the Jacksonville Show. In the photo is also seen the silver plate for the "Most Educational" exhibit at Jacksonville.

Fiesta of Gems and West Coast Shell Show, Santa Barbara, CA, Oct. 13-14, 1984

Winners: Robert Foster & Charles Glass

Title of Display: MUREX, The Rock Shells

The display consisted of four free-standing four foot cases lined with black velvet and displaying over 400 *Murex* shells. The judges were Twila Bratcher, Cid Derry and David Thomas. The "Shell of the Show," a *Murex* (*Homalocantha*) *anomaliae*, was also selected from this display.

This is their sixth consecutive C.O.A. Grand Trophy which is disgraceful. We hope some of you C.O.A. members with excellent collections from other parts of the west coast (or of the country) will enter this show next year and put a stop to this nonsense! The annual West Coast Shell Show has combined with the annual Fiesta of Gems (minerals, rocks, fossils and jewelry) and moved to the large Earl Warren Showgrounds, with participation of dealers from as far away as New York (Shellshock). This was their largest and most successful show in recent years with an attendance of thousands. Next year, hopefully, will be even bigger and better!



Fig. 2. Mary Ruth Foglino (left) receives first place rosette for her C.O.A. award winning exhibit, "A Library of Shells." Shell Show chairperson, P.J. Ehalt (right) made the presentation.

Long Island Shell Club's Shell Show '84, Freeport, N.Y., Sept. 22-23, 1984

Winner: Mary Ruth Foglino

Title of Display: A Library of Shells

A 64ft display consisting of about 35 books from a sheller's library, opened to a plate, usually in color, with, next to each book, a facsimile of the page with matching shells and background.

Mary Ruth Foglino has been a member of the Long Island Shell Club since its beginning nearly 10 years ago. She served as the club's president for two terms, in 1980-1982. As a teacher of blind children, Mary Ruth became interested in shells when looking for a sturdy, tactile, natural hobby for her students. They were mildly interested but she became a serious collector! This exhibit won the "People's Choice" and "Exhibitors' Choice" awards and, according to Mary Ruth, was a lot of fun to do because such a variety of shells could be used.

### GENERIC BRANDS

In reference to our article, "Philippine *Pterynotus*" (pp. 42-45) Dr. Emily H. Vokes wrote us that "*Pterynotus orchidiflorus* = *celinamarumai* = *subtilis* is/are not a *Pterynotus* but a *Chicoreus*." It is interesting to note that *Chicoreus subtilis* was, indeed, first described as a *Chicoreus*. She also stated that we were right in referring to the new species described by Kosuge as *Pterochelus dondani* as *Pterynotus* in the same article and will be formally making that combination.

### MYSTERY SOLVED

In reference to our request for an identity of the "Mystery Shell" figured on page 18, Dr. James MacLean wrote that it is a species of *Bathylotina*, a genus on which he happens to be working, and we have supplied him with material of the taxon to determine its status: new species or simply unusual and most attractive form.

R. Foster & C. Glass

### SINS OF OMISSION

The C.O.A. regrets inadvertently neglecting to have listed R.H. Jones, 1432 Dorsch Rd., South Euclid, Ohio 44121 as JUNIOR PAST-PRESIDENT and therefore under OFFICERS 1984-1985 on the recently issued 1984 Membership List.

### TALK ABOUT INCENTIVES . . .

Admonition received with "want-list:" "This morning, in the moonlight before dawn, I scattered four pounds of fresh fish in the driveway as an offering to Ta'aroa, Diety of the Tangle-net, so that Charles might find that (large superb specimen of *Pterynotus*) *loebbecke*. If he doesn't find it, let him know I must do as this book, *Divinities of Oceania*, suggests, and send the offering to him!"

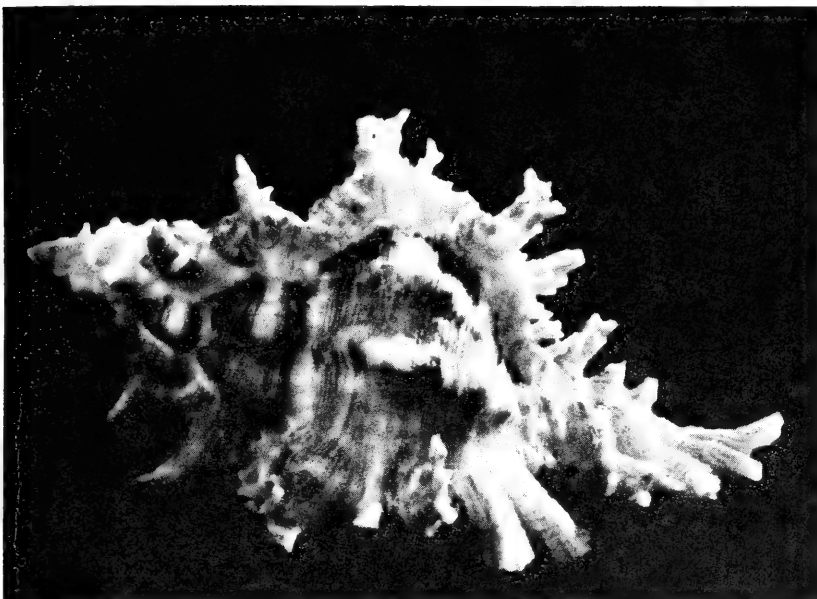
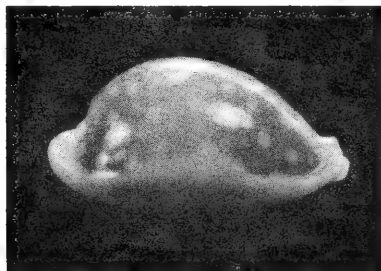
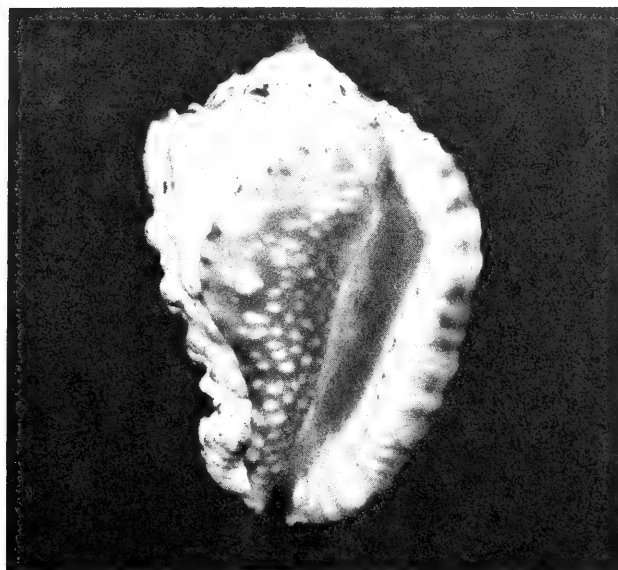
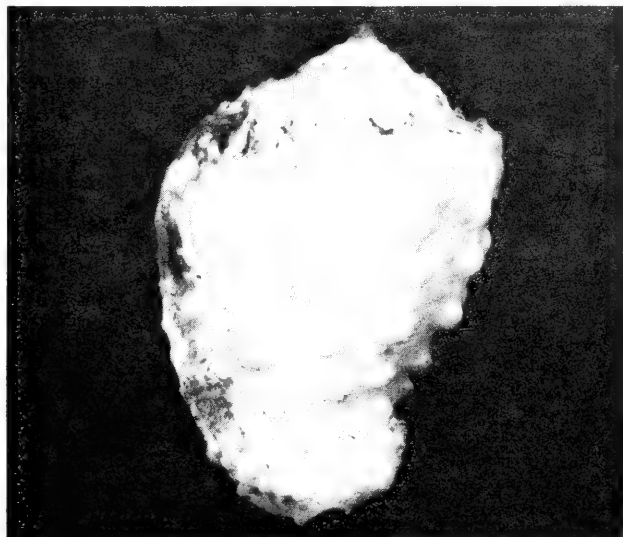


Fig. 1. *Chicocereus peledi* E.H. Vokes, a specimen in the Rev. Jack Wilkins' collection. Dov. Peled, who obtained the specimen from Eilat at the northern end of the Gulf of Aqaba speculates that oil, pollution, etc., could cause the extinction of this newly described species. It's been our observation that murex thrive on pollution . . . at least in California where the best murex are in the Los Angeles Harbor and in Santa Barbara . . . not too far from the oil seepage. We tend to compare them to garden snails which choose to live in the compost heap or the trash dump!



Figs. 2 & 3. Dorsal and lateral views of a 15mm specimen of the exceedingly rare *Cypraea bernardi* Richard from about 80ft. off Tahiti-iti, French Polynesia. We calculate that at the going price for this tiny rarity, the species is worth about \$980,000.00 per pound!



Figs. 5 & 6. Dorsal and apertural views of a 34.5mm long specimen of the rare *Morum exquisitum* (Adams & Reeve), AbS 84-188, dead taken off Laminusa Island in the Sulu Sea. It is a most beautiful species, particularly for its violet parietal shield in contrast to the heavy, mostly snowy white dorsum.

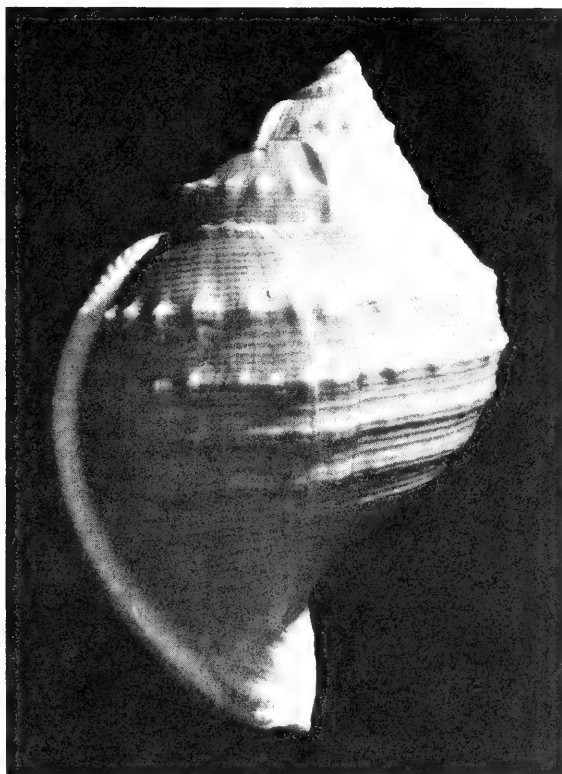


Fig. 4. *Oocorys alcocki* (Smith), AbS 83-998, purchased in Mandaue City, Cebu, P.I. In an article in the Bull. Inst. Mal. Tokyo (Vol. 1:8. 122-123. 1983) by Sadao Kosuge & Victor Dan, 3 known specimens were discussed, Dan's specimen from deep water off Balut Is., Davao being the first recorded from the Philippines. The shell pictured here would be the 2nds (from the Philippines) and the 4th known . . . from anywhere. The other 2 were from the Coromandel Coast of India and from the Flores Sea. The specimen figured here is 83.5mm long.

## SHELLS FOR THE AMATEUR

by R. FOSTER & C. GLASS

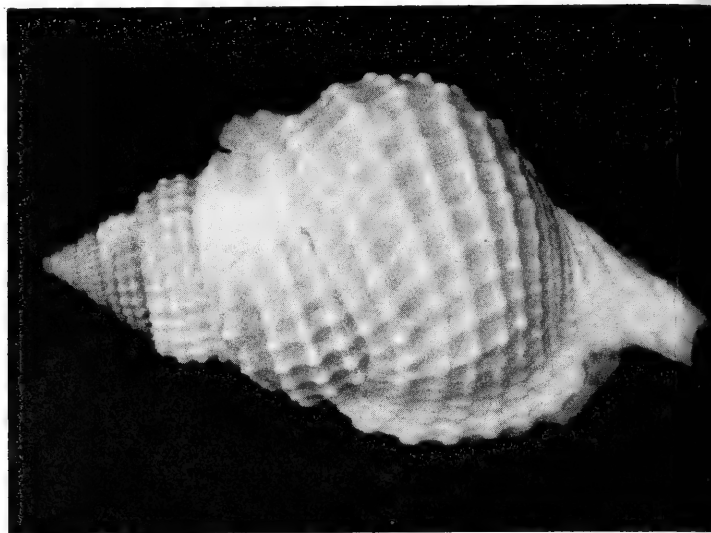
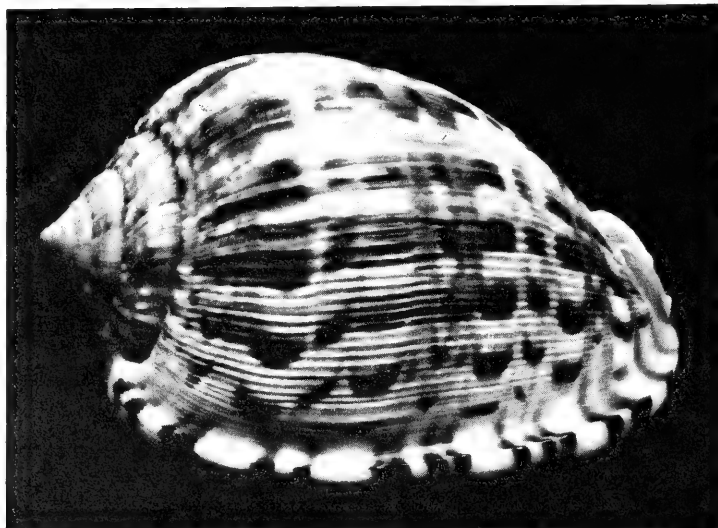


Fig. 1 (left). A giant (84.5mm long) specimen of *Cypraea testiculus* (Linne), Abs 80-1390. Fig. 2 (right). A 57.8mm long specimen of *Distorsio clathrata* (Lamarck), Abs 74-3145.

## SHELLS OF NORTHWEST FLORIDA

Compiled Jointly by The Gulf Coast Shell Club & The Northwest Florida Shell Club

This list attempts to include all species of marine shells found in Northwest Florida, covering the area from Pensacola to Port St. Joe. Though the list can never be complete, every effort has been made to verify the identification of the species placed here. The authors are aware of several unidentified species and as these are named and new ones found, a supplemental list will be printed. No attempt has been made to specify whether species are common or rare. Shallow water shellers far exceed the number of divers and, therefore, the fact that fewer deep water specimens are found is no proof that they are rare.

The abbreviation "f." means formerly and is used to give a previous name by which the shell was known. The abbreviation "Syn." is used to indicate a synonym for the current name.

Our appreciation is extended to Dr. R. Tucker Abbott who graciously agreed to assist with the identification of some of the more difficult species and, J. Rosewater of the Smithsonian Institute who assisted in the identification of the family Turridae.

Special thanks for compiling and typing (in alphabetical order) to: Jean Allen, Editor, Northwest Florida Shell Club Newsletter; Jim Brunner, President, Gulf Coast Shell Club; Bob Granda, Editor, Gulf Coast Shell Club Newsletter; and Nancy West, Secretary, Northwest Florida Shell Club.

The code column is not intended to list all club members who have a particular shell in their collection but, rather, to list collectors in each club who are permanent residents, who have the shell, and who would be willing to assist others in making identifications.

CODE	NAME AND ADDRESS	PHONE (904)
A	Jean Allen, 10 Green Dr., R-3, Mary Esther, Florida 32569	581-0967
B	Jim & Linda Brunner, P.O. Box 8188, Southport, Florida 32409	265-5557
Br	Barbara Barfield, P.O. Box 651, Lynn Haven, Florida 32444	265-5849
D	Tom Dix, 19 Paradise Point Rd., Shalimar, Florida 32579	651-4018
G	Bob & Jo Granda, 925 Rosemont Dr., Panama City, Florida 32405	769-2876
W	Bud & Nancy West, 1 Elkwood Court, Shalimar, Florida 32579	651-3173

### REFERENCE BOOKS USED IN IDENTIFICATION

*A Field Guide to Shells of the Atlantic and Gulf Coasts and the West Indies*, Percy A. Morris, Houghton Mifflin Company, Boston, 1975.

*American Seashells, 2nd Edition*, R. Tucker Abbott, Litton Educational Publishing, Inc. Van Nostrand Reinhold Co., NY, NY, 1974.

*Cone Shells, A Synopsis of the Living Conidae*, Jerry G. Walls, TFH Publications, Inc., Neptune, NJ, (No Date).

*Marine Shells of the Western Coast of Florida*, Louise M. Perry & Jeanne S. Schwengel, (Bulletins of American Paleontology Vol. 26/95), Paleontological Research Institution, Ithaca, NY, 1955.

*Seashells of North America*, R. Tucker Abbott, Golden Press, New York, 1968.

## SHELLS OF NORTHWEST FLORIDA

### GASTROPODA

SCIENTIFIC NAME	COMMON NAME	HABITAT	CODE
ARCHITECTICIDAE			
<i>Architectonica nobilis</i> Roding f. <i>Solarium verrucosum</i> S. <i>granulatum</i> Lamarck	Common Sundial	Deep, Gulf	AG
ACTEONIDAE			
<i>Acteon punctostriatus</i> C.B. Adams	Adam's Baby Bubble	Shallow, Sand/Grass	B
BUCCINIDAE			
<i>Cantharus cancellarius</i> Conrad	Cancellate Cantharus	Shallow, Bays	W D G
<i>Cantharus</i> species	To be named by Dr. Abbott	Shallow, Bay	A B Br G
<i>Cantharus multangulus</i> Philippi	False Drill	Shallow, Grass Beds	A B D G Br
<i>Colubraria lanceolata</i> Menke	Arrow Triton	Deep, Reef, Gulf	A
<i>Pisania tinctorius</i> Conrad	Tinted Cantharus	Shallow/Deep, Rocks	B D G



CANCELLARIDAE			
<i>Cancellaria reticulata</i> Linne	Common Nutmeg	Mod. Shallow, Gulf	A D G
<i>Trigonostoma smithi</i> Dall	Smith's Nutmeg	Deep, Gulf	D
CASSIDAE			
<i>Cassis madagascariensis</i> Lamarck	Emperor Helmet	Deep, Sand, Gulf	D G
<i>Cypraeassis testiculus</i> Linne	Reticulated Cowrie-Helmet	Deep, Gulf	
<i>Phalium granulatum</i> Born	Scotch Bonnet	Mod. Shallow, Gulf	A B Br G W
CAVOLINIDAE			
<i>Cavolina gibbosa</i> Rang	Gibbosa Cavoline	Beach After Storm	A W
<i>Cavolina longirostris</i> Lesueur	Long-Snout Cavoline	Beach After Storm	A W
<i>Creseis virgula</i> Rang	Curved Needle Pteropod	Beach After Storm	A W
CERITHIIDAE			
<i>Alabina cerithioides</i> Dall	Miniature Horn	Shallow/Deep, Mud & Sand	
<i>Conus stimpsoni</i> Dall	Stimpson's Cone	Deep, Gulf	G
<i>Conus ermineus</i> Born	Turtle Cone	Deep, Gulf	
CORALLIOPHILIDAE			
<i>Latiaxis mansfieldi</i> McGinty	McGinty's Latiaxis	Deep, Reef, Gulf	D W
CREPIDULIDAE (Syn. Calyptraeidae)			
<i>Crepidula aculeata</i> Gmelin	Thorny Slipper	Shallow, Dead Shells	A B G
<i>Crepidula fornicata</i> Say	Common Slipper	Shallow, Dead Shells	A B G
<i>Crepidula maculosa</i> Conrad	Spotted Slipper	Shallow, Dead Shells	B D
<i>Crepidula plana</i> Say	Flat Slipper	Shallow, Dead Shells	A B D G
CYMATIIDAE			
<i>Charonia variegata</i> Lamarck	Atlantic Triton	Deep, Gulf	H
<i>Cymatium cingulatum</i> Lamarck	Poulsen's Triton	Shallow, Crabbed	A G
<i>Cymatium femorale</i> Linne	Angular Triton	Deep, Gulf (Dead)	H
<i>Cymatium parthenopeum</i> von Salis	Giant Hairy Triton	Mod. Shallow-Mod. Deep, Sand/ Grass And Rocks	A C H
<i>Cymatium pileare</i> Orbiginy	Atlantic Hairy Triton	Deep, Rocks/Sand, Gulf	D H
<i>Cymatium vespereum</i> Lamarck	Dwarf Hairy Triton	Deep, On Reef	
<i>Cymatium krebbsi</i> Morch	Kreb's Triton	Deep, Gulf	G
<i>Distorsio clathrata</i> Lamarck	Atlantic Distorsio	Deep, On Reef, Gulf	A D G
<i>Distorsio constricta mcgintyi</i> Emerson & Puffer	McGinty's Distorsio	Deep, On Reef, Gulf	
CYPRAEIDAE			
<i>Macrocypraea cervus</i> Linne	Deer Cowry	Deep, On Reef	Br D G
DENTALLIIDAE			
<i>Dentallium callipeplus</i> Dall	Shining Tusk Shell	Shallow, Gulf	A
<i>Dentallium eborum</i> Conrad	Ivory Tusk Shell	Shallow, Gulf	A D G
<i>Dentallium texianum</i> Philippi	Texas Tusk Shell	Shallow, Grass, Bays	B
ERATONIDAE			
<i>Trivia pediculus</i> Linne	Coffee-Bean Trivia	Beach, After Storm	
<i>Trivia maltbiana</i> Schwengel & McGinty	Maltbie's Trivia	Deep, Reef, Gulf	
<i>Trivia suffusa</i> Gray	Suffuse Trivia	Deep, Gulf	D
EPITONIIDAE			
<i>Epitonium angulatum</i> Say	Angled Wentletrap	Shallow/Deep, Sand, Bays And Gulf	A B Br G W
<i>Epitonium multistriatum</i> Say	Many-Ribbed Wentletrap	Beach, In Drift	B Br
<i>Epitonium rupicola</i> Kurtz	Banded Wentletrap	Shallow, Bays, Mud/Sand	A B G
FASCIOLARIIDAE			
<i>Fasciolaria lilium hunteria</i> Perry	Banded Tulip	Shallow, Sand/Grass	A B Br G
<i>Fasciolaria tulipa</i> Linne	True Tulip	Shallow, Sand/Grass	A B Br G
<i>Fusinus timessus</i> Dall	Turnip Spindle	Deep, Gulf	A G
<i>Latirus mcgintyi</i> Pilsbry	McGinty's Latirus	Deep, Reef, Gulf	D W
<i>Pleuroploca gigantea</i> Kiener (deep water specimens dark orange)	Florida Horse Conch	Mod. Shallow, Sand & Grass	A B Br G H
FICIDAE			
<i>Ficus communis</i> Roding f. <i>F. papyratia</i> Say	Paper Fig	Deep, Gulf	G W
FISSURELLIDAE			
<i>Diodora cayenensis</i> Lamarck	Little Keyhole Limpet	Shallow, On Dead Shells	B Br G W
HAMINOEIDAE (Syn. Atyidae)			
<i>Bulla striata</i> Bruguiere		Shallow, Grass	A B G
Syn: <i>Bulla occidentalis</i> A. Adams (This belongs in the family Bullidae)			
<i>Haminoea elegans</i> Bray	Elegant Bubble	Shallow, Grass	A B
<i>Haminoea succinae</i> Conrad	Amber Atys	Shallow, Sand, Bays	A B
<i>Philine quadrata</i> J. Wood	Quadrata Paper Bubble	Shallow, Sand, Bays	A
LITTORINIDAE			
<i>Littorina angustior</i> Morch	Angust Periwinkle	Attached Above Tide Line	A W
<i>Littorina irrotata</i> Say	Marsh Periwinkle	Grass At Water's Edge	A D
<i>Littorina lineolata</i> Orbigny	Lineolate Periwinkle	Shallow On Debris	B
<i>Littorina ziczac</i> Gmelin	Zebra Periwinkle	On Grass At Tide Line	
MARGINELLIDAE			
<i>Hyalina veliei</i> Pilsbry	Velie's Marginella	Shallow, Sand	B Br G
<i>Marginella eburneola</i> Conrad	Tan Marginella	Shallow, Sand	A B Br G
<i>Marginella apicina</i> Menke	Common Atlantic Marginella	Shallow, Sand	A B G
<i>Marginella aureocincta</i> Stearns	Gold-Lined Marginella	Shallow, Sand/Grass	A B Br G
<i>Marginella lavalleana</i> Orbigny	Snowflake Marginella	Shallow, Sand	A W

(to be continued)

## THE STROMBUS WHATCHAMACALLIT

by WINSTON A. BARNEY

My eyes were certainly opened this summer when I tried my hand at writing shell descriptions for one of my pet projects. At once I became aware of the difficulty of expressing with words even the most obvious characteristics of a shell. For example, colors; words like "red," "orange," and "brown" don't really describe the color I am seeing and the hyphenated "grey-browns" or "yellow-oranges" are even more ambiguous. I also have trouble deciding whether I am seeing brown on white or white on brown (the old "zebra" dilemma).

I have trouble with sculpture, too. It is next to impossible for me to describe a bump on a shell. I don't know whether to call it a module or a bead, or a granule, tubercle, node, or knob. And then come the ribs, riblets, folds, and plications which at least imply axial alignment.

However, the real subject of this article is the lack of nomenclature for that simple structure that many shells of the genus *Strombus* develop on the posterior portion of the outer lip. Here are some examples of how a few leading authors have described it:

Dance: "Short, broad spine projecting upwards from outer lip"

Dance: "long, upward pointing digitation"

Oliver: "a short finger-like projection from posterior end of the outer lip"

Abbott: "a high, prong-like extension of the posterior end of the outer lip"

Cernohorsky: "outer lip . . . with a finger-like projection on top of the aperture"

Wilson and Gillett: "posterior projection of the lip"

Now these are all accurate descriptions but, in my opinion, what we need is a NAME for the protuberant projection. I have searched, in vain, for a name to pin on this prominent part. Other parts of the shell have names, why can't this?

Reviewing the whole genus one finds there are many variations of the projection. On one end of the spectrum are the thin, finger-like projections of *Strombus aratrum*, *aurisdianae*, *bullae*, *listeri*, *comer*, *taurus* and *gallus*. The middle of the road includes the species whose projections are broad at the lip and pointed or angular at the extremity such as *Strombus tricornis*, *peruvianus*, *costatus*, *raninus* and *thersites*. The opposite end of the spectrum includes species whose outer lip projections are rounded and greatly enlarged such as *Strombus gigas*, *goliath* and *latissimus*.

In the preceding group of shells the outer lip projection has sometimes been described as a "wing." Acting on that precedent I have coined the word "labialatum" (lip-wing) to label that part of the shell. By using this term communication between author and reader may be greatly improved:

"The labialatum is colored black and is often bent away from the spire."

or

"The labialatum is much taller than the spire."

I admit that the term applies more aptly to the rounded "wing" of the *S. gigas* than the thin projection of *S. gallus*, but its function is more to designate a particular area than to describe a certain shape. (How many cones are there with "spires" that are absolutely flat?) I urge other collectors to use this term because I believe it clarifies the thought and reduces verbiage in the shell description.

### MEMBERS' CORNER

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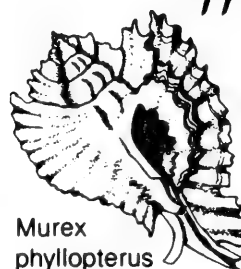




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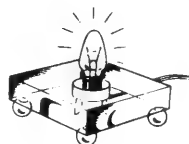
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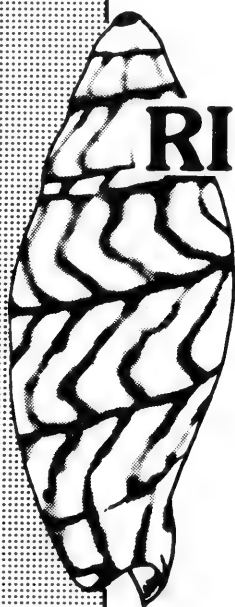
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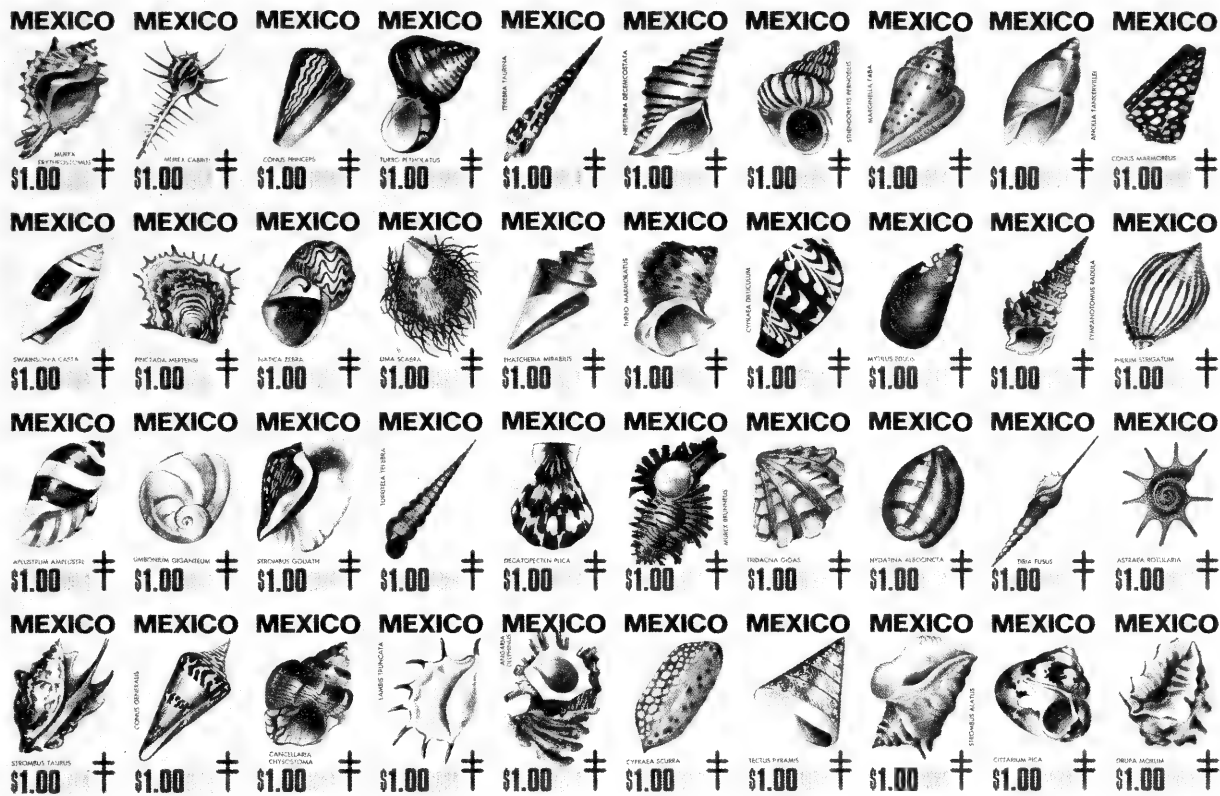
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CLUB & SHOW NEWS

The Georgia Shell Club will present its Seventh Annual Shell Show on April 12th thru 14th at the Northlake Mall, Atlanta. For more information contact Louise or Doug Compton, 4236 Lower Roswell Road, Marietta, GA 30062, (404) 971-2431.

The newly formed Suncoast Conchologists (box 1564, Palm Harbor, FL 33563) got off to a successful start with the 1st general meeting on Oct. 30th with over 50 prospective members and guests. Anyone interested is invited to write for time and place of future meetings.

C.O.A. CONVENTION, 1985

This year the annual COA convention will be held June 22-26, 1985. Just for something different, it will be held in the city of brotherly love — Philadelphia, of course.

Our setting will be the Holiday Inn, situated in the very heart of the historic district, literally a stone's throw from the Liberty Bell and Independence Hall, birthplace of our nation. Here you will find yourself surrounded by more eighteenth century buildings than exist anywhere else in the United States. Retracing the steps of our founding fathers, you will also enjoy one of the most pleasant and sophisticated urban settings of the America of today. In this area, even the fast food restaurants, whose names more often than not you won't recognize, offer tastier fare than most full fledged restaurants, and for a full meal, you are within walking distance of hundreds of fine restaurants offering the best of cuisines from all over the world.

While the city of Philadelphia's historical attractions are well known, the city's cultural, shopping, sporting, and educational attractions are simply phenomenal. There's something here for everyone, so much, in fact, that you'll be hard pressed to sample even a small fraction of everything available to you during your stay. In fact, you may want to reserve a few extra days at the hotel here, or at the Jersey shore, just to take it all in. Don't forget, the C.O.A. shellabration will be packed with shell-related activities, and we know you won't want to miss any of it.

Among highlights of the convention itself, the reception will surely be unforgettable. The Philadelphia Shell Club, in honor of the 30'th anniversary of its founding by Dr. R. Tucker Abbott, will be hosting the gala reception at the world famous Academy of Natural Sciences. Good food and drink will be plentiful, and the entire staff of the Department of Malacology will be on hand to give you the Cook's tour of this, one of the world's great institutes of research in the natural sciences. In addition, the convention will offer an excellent series of lectures, workshops (something new), and what we hope will be the finest bourse and auction yet. There will be field trips aplenty, including the Delaware Museum, tours of Philadelphia, and a day trip to Cape May, New Jersey, for a taste of Victoriana, the salt air, and some shelling, Jersey style. Don't knock it if you haven't tried it! Also, we will have quality exhibits for your viewing pleasure, and other special activities, even a trip to the casinos of Atlantic City, for those who are so inclined. Our banquet will be in the ballroom of the hallowed Academy of Music, home of the Philadelphia Orchestra, and our featured speaker will be Dr. Waller of the Smithsonian Institute. Now top that one!

Detailed information on the convention and all forms will be forthcoming in the March C.O.A. Bulletin and in special mailings. But don't wait to mark those dates and plan now to be in Philadelphia for a great time, guaranteed, for members and non-members alike. If you wish to direct any inquiries or mailings to the C.O.A. convention committee, please direct them to: Janet Thompson, Hopkinson House, 602 Washington Sq., South, Philadelphia, PA 19106, ATTN: COA. Janet will be our mail contact person for the duration.

See you in Philadelphia in June!

Your Convention Committee

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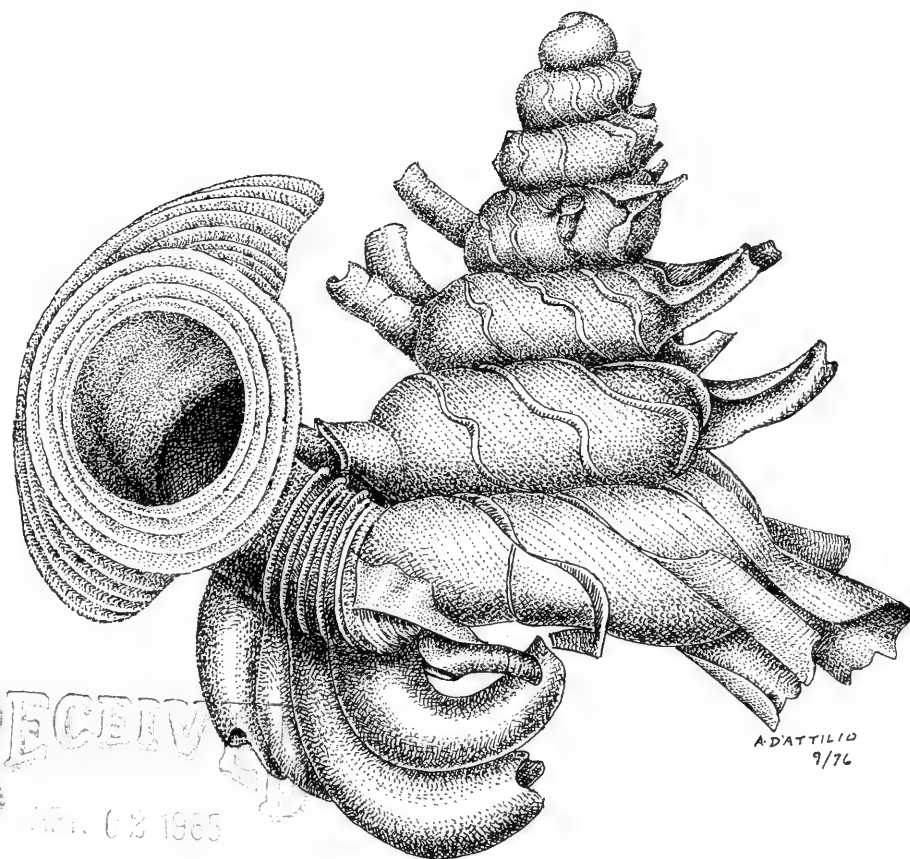
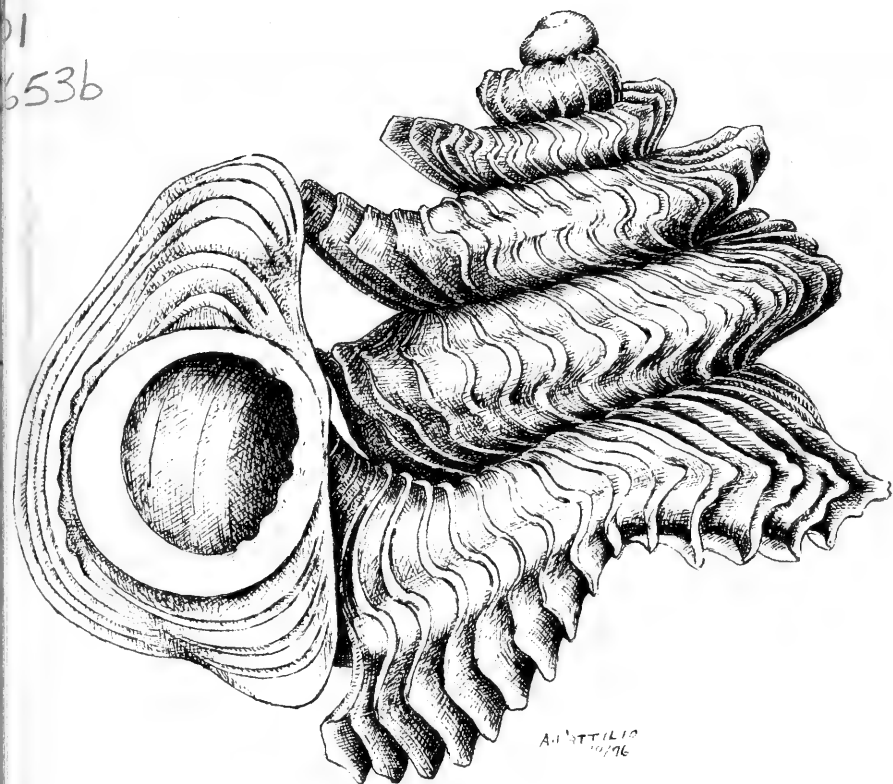
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VOL. 13, NO. 1

MARCH, 1985





In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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**COVER PLATE:** We are pleased to present two more of the incomparable pen and ink sketches of Anthony D'Attilio (as well as an article to accompany them which appears on this page). The incredible shell depicted in the upper left is *Opisthostoma pulchella* and in the lower right, *Opisthostoma mirabile*.

The C.O.A. is looking for projects related to malacology or conchology that need some financial assistance or support.

If you know of any such projects or organizations in need of support or assistance please send a letter outlining all the details and information to the Board of Directors of the C.O.A. All requests should be received by May 1, 1985.

The Board of Directors will review all requests and make their recommendations to the general membership at the C.O.A. convention in Philadelphia in June for their action.

Send letters to:

C.O.A. Board of Directors  
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#### EDITORIAL

##### PROPER CARE AND HANDLING OF SHELL DEALERS

A bit of a to-do has been made recently about evaluating shell dealers. (The reverse, too, the evaluation of customers, offers interesting possibilities: Gem, Fine, Good, and Please-buy-somewhere-else!). Among many buyers there is occasionally a feeling which ranges from mistrust to downright antagonism. The truth is that with the reputable shell dealer the

(continued on page 11)

## OPISTHOSTOMA BLANDFORD, 1860

### COMMENTS AND ILLUSTRATIONS

by ANTHONY D'ATTILIO

Natural History Museum

P.O. Box 1390, San Diego, California 92112

These extraordinarily interesting land snails are very small, — less than 5 mm in length. As far as I can determine from the data included with the specimens in the S.D.N.H.M. collections, this genus is found in north Borneo. I have had no success in finding this name in the available literature at hand. The genus is listed in Neave, "Nomenclature Zoologicus (p. 445)" where the citation for the journal reads, J. Asiat. Soc. Bengal 29, 121-Moll.

I am not familiar with the Systematics of Terrestrial Mollusks. Curiously enough, species of similar form referred to *Hypselostoma*, are figured in Walter Webb's "Handbook for Shell Collectors" (1935, First Edition?). (My shell collecting started in 1938 with W. Webb as my guide.) As *Opisthostoma*, the genus is listed by Cooke in "Cambridge Natural History" with two species *O. cookei* E.A. Smith and *O. grandispinosum* G.-A., both said to come from Borneo.

Other works consulted without success were Thiele's Handbook (1929) and A. Zilch's (1959-1960) work on the Euthyneura section of the extensive work edited by Wenz.

In addition to the two species illustrated here, *mirabile* and *pulchellum*, this museum also has the following nominal species: *otostoma* Bttg., *baritense* Smith, *jacundum* Smith, *crepignyi* Rd., and *everetti* Smith. All have north Borneo as locality.

The species listed above are entirely white in color, the aperture is sinistral and without internal sculpture. The shells are frequently embellished externally with extensive concentric growth ridges or flanges. The final portion of growth containing the aperture, extends like a trumpet or French horn beyond the shell.

Similar small species which I found well documented are placed in other families. They differ by having highly sculptured folds within the aperture. This widespread character is found also among larger species including many medium spired and planispiral forms found in North America and elsewhere.

The sculptured apertural characters found in the Endodontoid terrestrial snails are treated in the recently published, monumental work by Dr. Alan Solen of the Chicago Natural History Museum.

Information on the Systematics of *Opisthostoma* would be appreciated by me from any malacological worker familiar with this genus.

#### LETTERS TO THE EDITORS

Dear Editors:

I was very interested in your article, "Speculations on the Distorsions of Distorsios," in the June issue of the C.O.A. Bulletin. In fact, it prompted me to write a little article on the Distorsios for our Chicago Shell Club Newsletter (now named The Thatcheria). While reviewing the literature for this article, I discovered that the observation you made on the growth of the Distorsios had been reported earlier by Clench and Turner in *Johnsonia* 3(36): 223, 1957. They stated: "Aperture auricular in appearance being complicated by numerous palatal denticles and parietal plicae. The denticles and plicae produced at earlier stages of growth are not absorbed as the shell grows but remain internal structures in the shell as shown in Plate 131. Because of this apertural armature the shell is twisted and bulges to compensate for the space occupied by these internal denticulations." Lewis, in *The Nautilus* 86:27-50, 1972, also noted that the "whorls are swollen and distorted because they bulge in order to accommodate the growing animal as it covers earlier whorls."

You may have become aware of these earlier references, but, if not, I thought you would like to be apprised of them.

John R. Lewis, Ph.D.  
Lisle, IL

## BOOK REVIEW

## The 1985 WORLD SIZE RECORDS

Supplement 3, Standard Catalog of SHELLS by Wagner & Abbott, 8½ X 11" format, 30pp, plus soft color cover. Available from American Malacologists, Inc., Box 2255, Melbourne, Florida 32902 for \$6.00 plus \$1.00 mailing.

Perhaps the "Guinness Book of Records" mentality has added to what the American Malacologists' Sales Department describes as a "craze among serious shell enthusiasts to collect world size records." We, ourselves, have always been more concerned with quality rather than size, and the largest in shells are most definitely rarely of high quality, but, indeed, there is great interest in record size specimens.

Supplement 3 offers over 1,000 such up-to-date maximum size records of which 219 are cones, 138 cowries and 55 are volutes. The work lists the taxon, alphabetically by genus and species, size in centimeters, owner of the specimen, locality where it was found and date collected or registered. It is, unquestionably a publication of interest and anyone with a particular interest in world record size would not want to be without a copy. We would state further that if you do, in fact, have such an interest, that you should cooperate and supply record data where appropriate so that each year's catalog will be a truer reflection of actual maximum size. *Cypraea langfordi* is listed, for instance, with the record being 6.43cm. In this issue we picture a specimen of *C. langfordi* which is 6.91cm long, but just having the shell is not good enough if you wish to have it officially listed as a world size record. As stated on page 1 of Supplement 3, "World size records may be established and verified by any professional malacologist, such as might be found at any one of the leading natural history museums of the world . . . Verified information should be forwarded by the owner . . . to the senior editor in Florida" (515 Avenida Primiceria, Marathon, Florida 33050).

The Editors

## GIANT AND DWARF COWRIES

The shells figured in the accompanying illustrations are in the collection of C.O.A. member Marty Beals, c/o Tideline, 640 S. Isis, Inglewood, California 90301. He thinks that they may represent size records and would be interested in hearing from anyone who knows of a larger (or smaller, in the case of the "dwarfs") specimen.

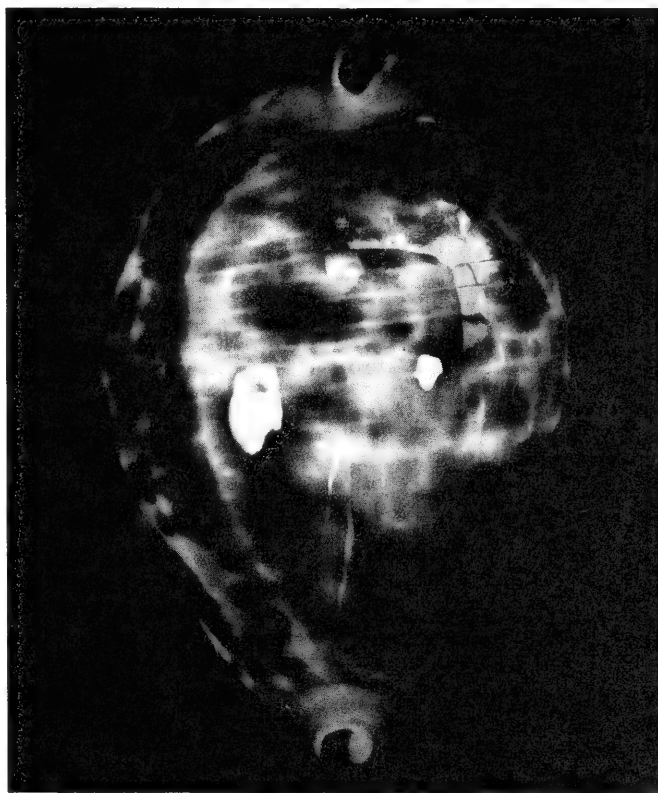
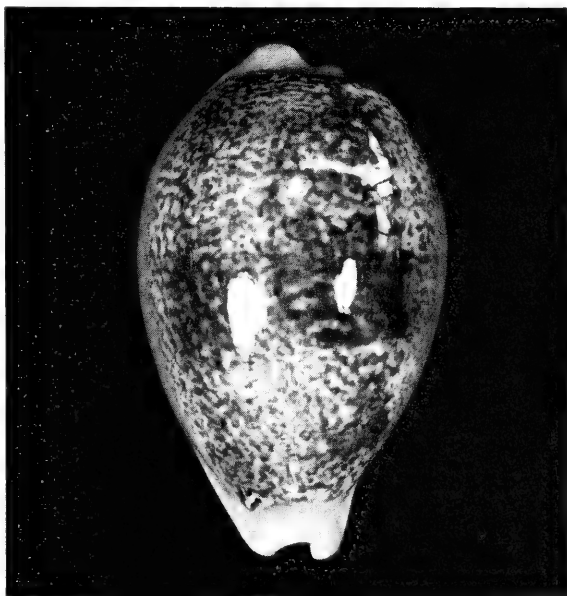
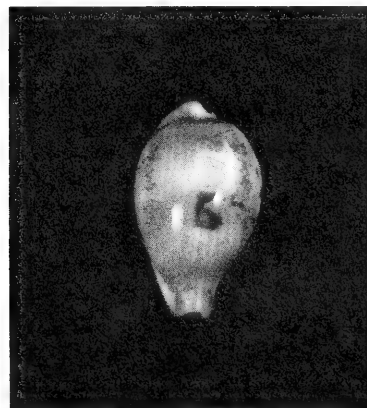
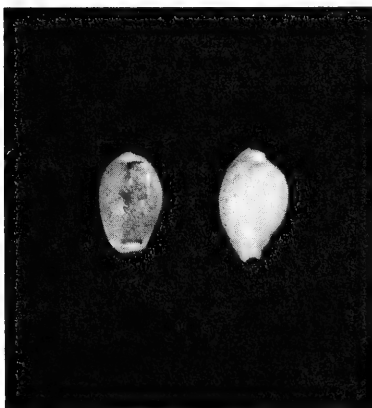
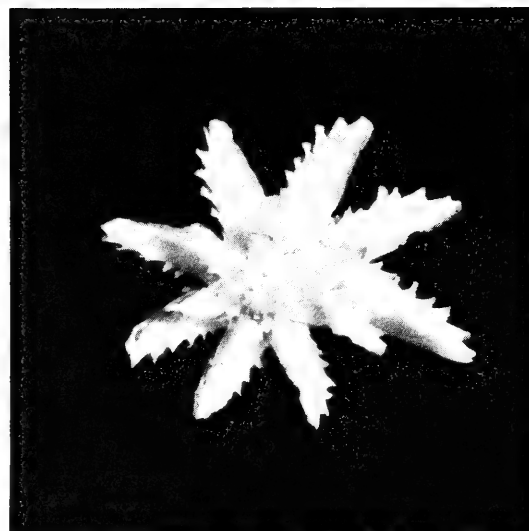
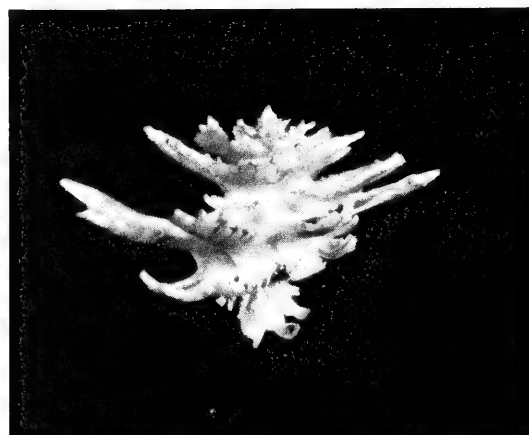
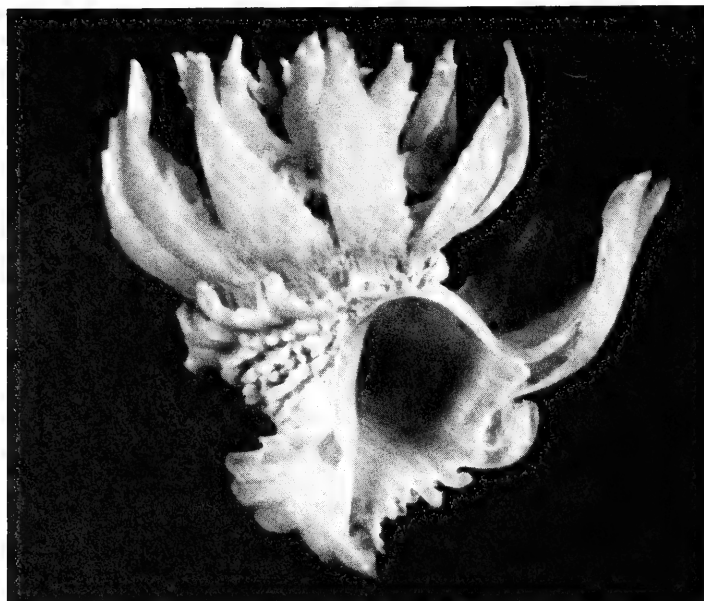


Fig. 1. *Cypraea jeaniana* Cate, 1968, giant 97.0mm long specimen, collected in N.W. Australia in 1977. (Photos by the Abbey Specimen Shells).

NOTE: The recorded size record in Wagner & Abbott for *Cypraea boivini* is 3.7cm; 6.14cm for *Cypraea hirasei*; and 1.42cm for *Cypraea maiensis*.

(Below, left to right:) Fig. 2. *Cypraea langfordi* Kuroda, 1938, giant 69.1mm long specimen from deep water off Balut Island, southeastern Mindanao, Philippines, collected in 1983. Fig. 3, left. *Cypraea boivini* Kiener, 1843, dwarf 13.9mm specimen, collected by Dennis Mock in Cebu, Philippines in 1984. Fig. 3, right. *Cypraea maiensis* Burgess, 1967, giant 15.8mm long specimen, collected by Marty Beals off Maui, Hawaii in 1982. Fig. 4. *Cypraea hirasei* Roberts, 1913, dwarf 29.6mm specimen from Taiwan, 1983.





Figs. 1-3. *Latiaxis jeanneae* D'Attilio & Myers, 1984: fig. 1, a magnificent, faintest pink, 23 mm long specimen, Abs 84-322, from off Mactan Island, Cebu; figs. 2 and 3 (right) are different views of a 17 mm long, chalky white, snowflake-like specimen, also from Mactan (Abs 83-867).

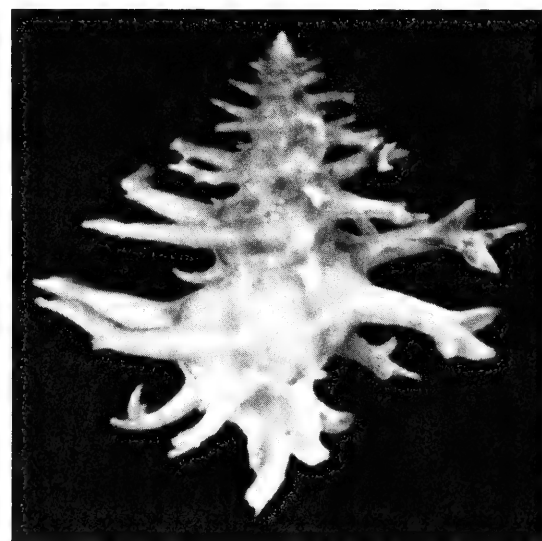
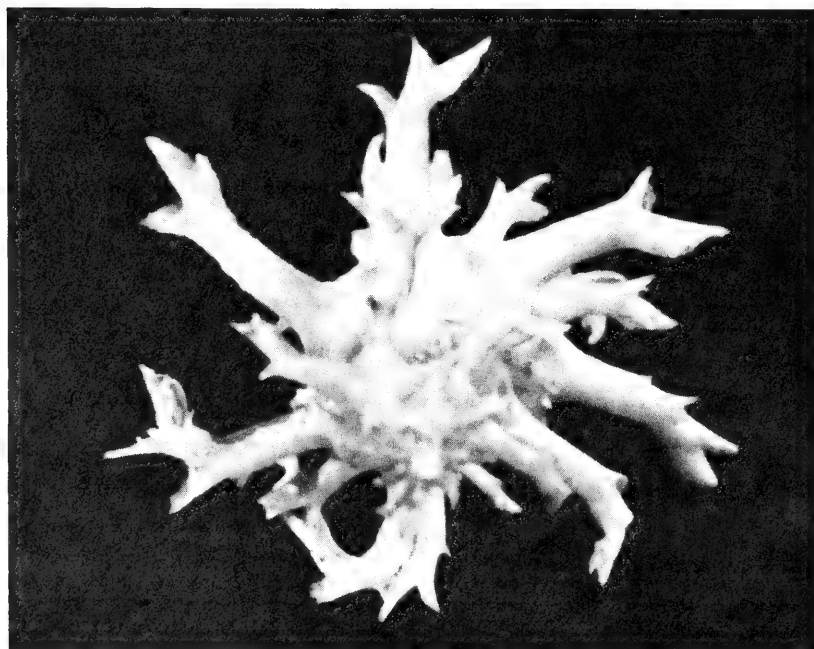
## PHILIPPINE LATIAXIS

by R. FOSTER & C. GLASS

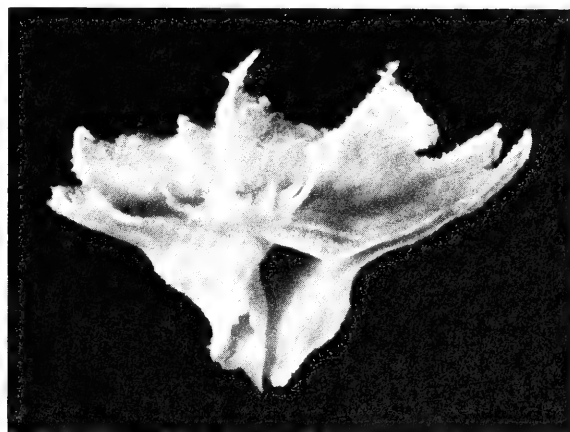
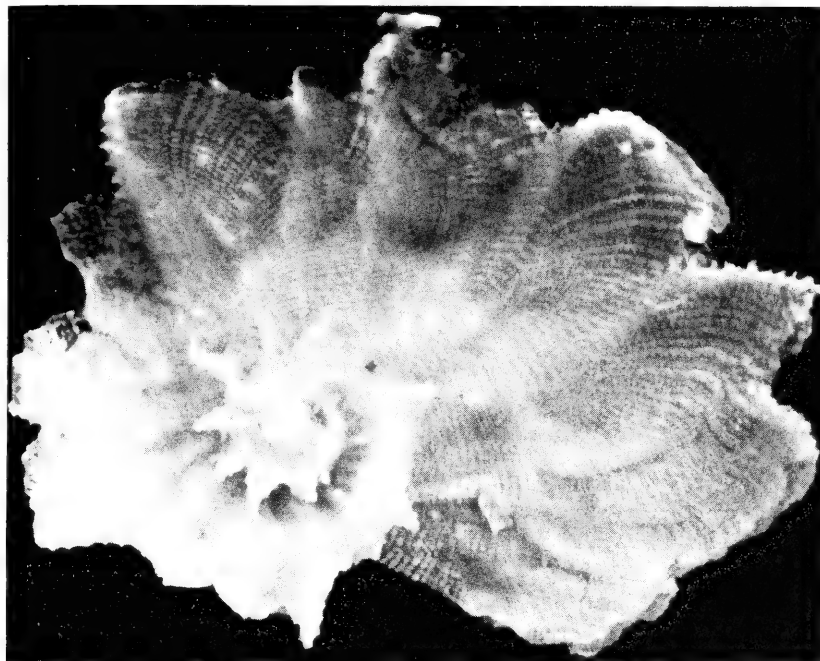
The genus *Latiaxis* is a taxonomic nightmare. The difficulties have been compounded, as the hobby has been enhanced, by the spate of new discoveries which have turned up in recent years in Philippine tangle nets, particularly from deep water in the Straits of Bohol, between the islands of Cebu and Bohol in the Visayan or central Philippines. Many of the new discoveries are forms of Japanese or Taiwanese counterparts; others are totally new; and others may be redescrptions of older, poorly known species.

The latiaxis are, indeed, the jewels of the shell world and deserve to be better known and studied. For the present we have to satisfy ourselves with just presenting some of the prettier and more interesting taxa.

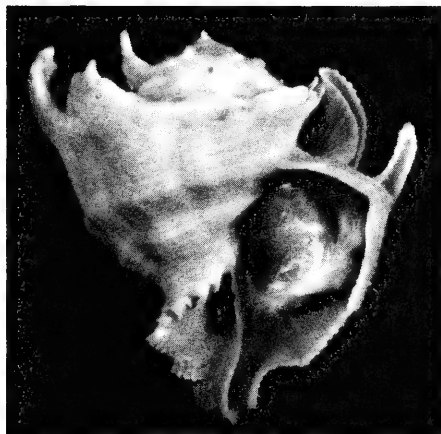
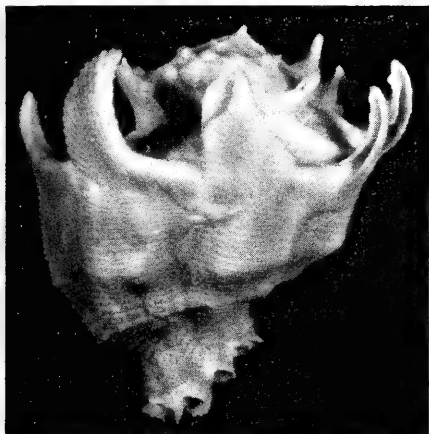
Figs. 4 & 5. *Latiaxis fruticosus* Kosuge, 1979: apical and side views of Abs 83-900, a 26 mm long, pale tan specimen from off Mactan Is., a most intricate and delicate species, also rather snowflake-like!







Figs. 6 & 7. *Latiaxis pilsbry* Hirase, 1908: side and apical views of an exceedingly delicate and lovely, pale orange specimen, AbS 84-317, 31 mm in diameter, from off Mactan.

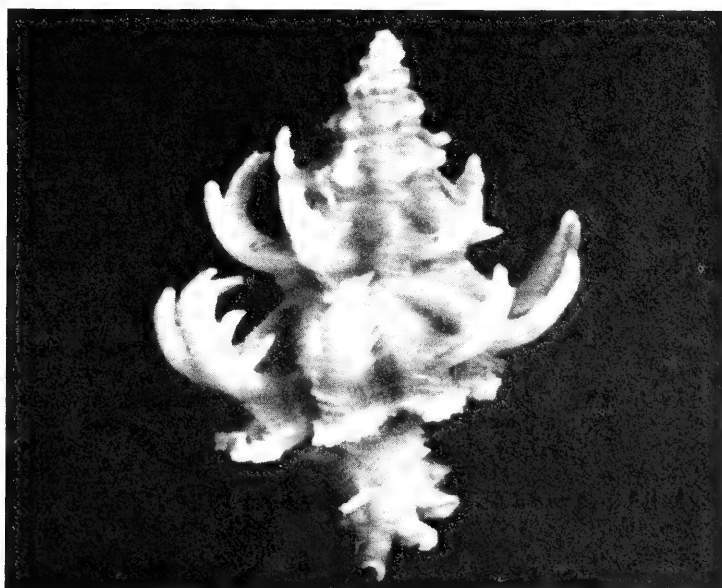
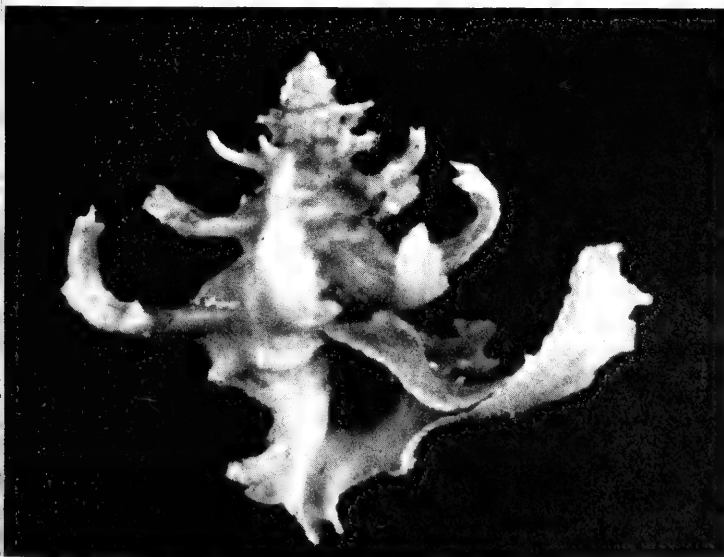


Figs. 9 & 10. Views of *Latiaxis pisorii* Kosuge & D'Attilio, 1980, an interesting orangish pink species with dark lavender aperture. This specimen, AbS 83-972, is 30.5 mm long and also from off Mactan Island.



Fig. 8. *Latiaxis mawae* Griffith & Pidgeon, 1834: the very different Philippine form of this species, smaller and shorter and more delicate than its Taiwanese counterpart, and rich tan in color, this specimen (AbS 81-1991) is 28mm in diameter and from Mactan.

Fig. 11 (left). *Latiaxis cristatus* Kosuge, 1979, a plum colored specimen approximately 25 mm long, from off Mactan, and (Fig. 12, right) *Latiaxis macutanica* Kosuge, 1979, a 22.4 mm long, yellowish tan specimen (AbS 84-319) from (where else) Mactan. *L. cristatus* may be most easily distinguished from *L. macutanica* by the body whorl below the shoulder having a spiral ridge on the periphery but not the spiral cords with scaly sculpture. *L. macutanica* is separatable with difficulty, if at all, from *L. gemmatus*.





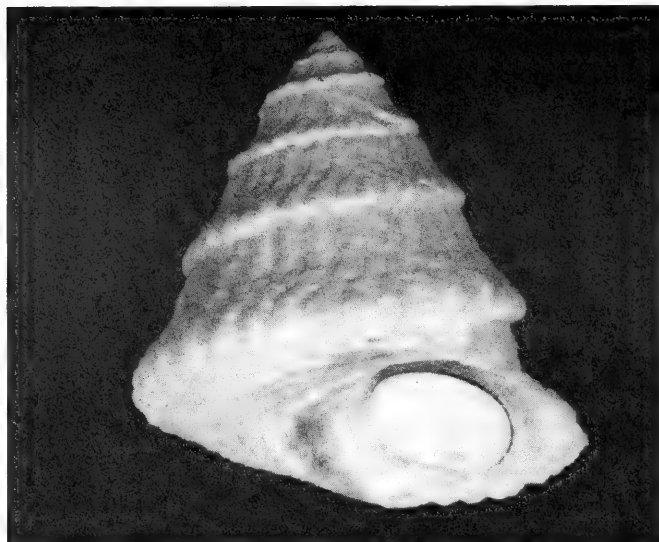


Fig. 3. *Astraea tecta americana* (Gmelin), a 34 mm long, whitish specimen (AbS 76-1274) collected by Foster & Glass in southern Florida, in shallow water in the Keys. Fig. 4 (right). *Xenophora conchyliphora* Born, AbS 74-938, a very small specimen (ca 43 mm in maximum diameter) collected in 27 fm, W.S.W. Johns Pass, Florida.

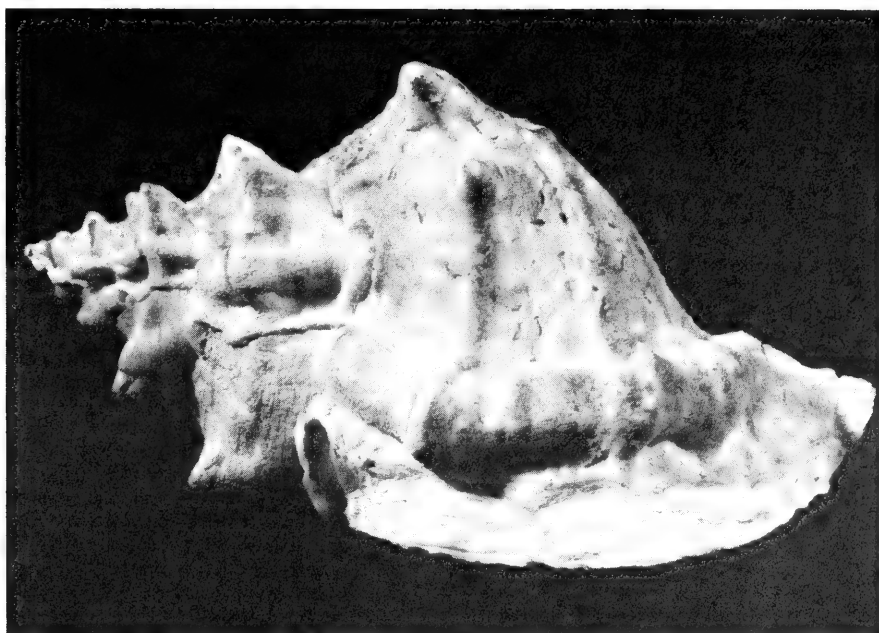
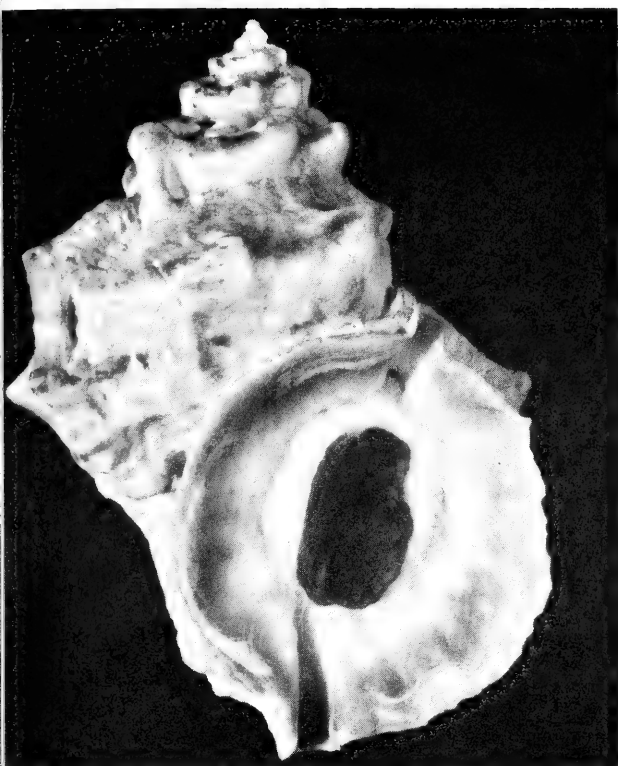
## SHELLS OF NORTHWEST FLORIDA PART 2

Compiled jointly by The Gulf Coast Shell Club & The Northwest Florida Shell Club

<b>MELAMPIDAE</b>			
<i>Melampus bidentatus</i> Say	Salt-Marsh Snail	Attached Above Tide Line	A W
<b>MELANELLIDAE</b> (Syn. Eulimidae)			
<i>Melanella conoidea</i> Kurtz & Stimpson	Conoidal Melanella	Shallow, Sand/Grass	B
<i>Melanella hypsela</i> Verrill & Bush	Tall Eulima	Shallow, Sand	A G W
<i>Melanella intermedia</i> Cantraine	Cucumber Melanella	Shallow, Sand	G
<b>MELONGENIDAE</b>			
<i>Busycon contrarium</i> Conrad	Lightning Whelk	Shallow, Sand/Grass	A B Br G
<i>Busycon spiratum</i> Lamarck f. <i>Busycon</i> <i>pyrum</i> Dillwyn NOTE: The specimens found here are probably a subspecies of <i>B. s. pyruloides</i> Say (smooth, rounded shoulders)	Pear Whelk	Shallow, Sand/Grass	A B G
<b>NATICIDAE</b>			
<i>Natica canrena</i> Linne	Colorful Atlantic Natica	Deep, Gulf	A G
<i>Natica pusilla</i> Say	Miniature Natica	Debris After Storm Shallow In Mud/ Sand	A B G W
<i>Policines duplicatus</i> Say	Shark's Eye	Shallow, Sand/Mud	A B G W
<i>Sinum perspectivum</i> Say	Baby's Ear	Shallow, In Sand	B D G
<b>NERITIDAE</b>			
<i>Neritina reclivata</i> Say	Green Nerite	Shallow, Grass, Bays	B D G
<i>Smaragdia viridis</i> Linne	Emerald Nerite	Shallow, Sand/Grass	B Br G
<b>OLIVIDAE</b>			
<i>Olivella floralia</i> Duclos	Rice Olivella	Shallow, Sand/Grass	B
<i>Olivella mutica</i> Say	Variable Olivella	Shallow, In Sand	A B Br G
<i>Olivella pusilla</i> Marrat	Tiny Florida Olive	Shallow, Sand, Bays	A B G
<i>Oliva sayana</i> Ravenel	Lettered Olive	Shallow, In Sand	A B Br G
<b>OVULIDAE</b>			
<i>Simnia uniplicata</i> Sowerby	Single-Toothed Simnia	Mod. Deep, Gulf	B G W
<b>PYRAMIDELLIDAE</b>			
<i>Pyramidella crenulata</i> Holmes	Crenulated Pyram	Shallow, Sand, Bays	A B G W
<i>Odostomia laevigata</i> Orbigny	Ovoid Odostoma	Shallow, Sand/Grass	B
<i>Odostomia conoidea acutidens</i> Dall		Shallow, On Scallops	B
<i>Odostomia seminuda</i> C. B. Adams	Half-Smooth Odostoma	Shallow, Sand/Grass	B
<i>Turbonilla conradi</i> Bush	Conrad's Pyram	Shallow, Sand/Bays	A B Br G
<i>Turbonilla dalli</i> Bush	Dall's Turbonille	Shallow, Sand, Bays	A B Br G W
<i>Turbonilla hemphilli</i> Bush	Hemphill's Pyram	Shallow, Sand, Bays	A W
<i>Turbonilla incisa</i> Bush	Incised Pyram	Shallow, Sand, Bays	A
<i>Melongena corona</i> Gmelin	Florida Crown Conch	Shallow, Sand/Mud & Grass	A B Br G
<i>Melongena corona johnstonei</i> Clench & Turner	Johnstone's Crown Conch	Shallow, Sand/Mud & Grass	A B G
<b>MITRIDAE</b>			
<i>Mitra albocinctum</i> C. B. Adams	Sulcate Miter	Deep, Reef, Gulf	A
<b>MODULIDAE</b>			
<i>Modulus modulus</i> Linne	Atlantic Modulus	Shallow On Grass	A B Br G W
<b>MURICIDAE</b>			
<i>Aspella senex</i> Dall		Deep, Gulf	A

<i>Calotrophon ostrearum</i> Conrad	Purple Drill	Shallow, W/Bivalves	A B G
<i>Chicoreus dilectus</i> A. Adams			
Syn. <i>C. florifer</i> Reeve	Lace Murex	Shallow, Sand/ Grass Deep, Reef, Gulf	A B Br G W
<i>Eupleura sulcidentata</i> Dall	Sharp-Ribbed Drill	Shallow, Sand/Grass (commonly found in dead bivalves)	A B Br G W
<i>Favartia cellulosa</i> Conrad f. <i>Tritonalia cellulosa</i> Conrad	Pitted Murex	Shallow, Sand/Grass And On Dead Shells	A B Br G W
<i>Murex cabriti</i> Bernardi	Cabrit's Murex	Deep, Gulf	A G
<i>Muricanthus fulvescens</i> Sowerby	Giant Atlantic Murex	Deep, Gulf	B D G
<i>Phyllonotus pomum</i> Gmelin	Apple Murex	Shallow, Grass Beds	A B G
<i>Urosalpinx perrugata</i> Conrad	Gulf Oyster Drill	Shallow, W/Bivalves	A B G
NASSARIIDAE			
<i>Nassarius acutus</i> Say	Sharp-Knobbed Nassa	Shallow, Grass, Gulf	A G W
<i>Nassarius albus</i> Say	Variable Dog Whelk	Deep, Gulf -Beached after storms	A G
<i>Nassarius vibex</i> Say	Common Eastern Nassa	Shallow, Sand	A B Br D G
RISSOIDAE			
<i>Rissoina catesbyani</i> Orbigny	Catesby Risso	Shallow, Sand/Grass	B
<i>Rissonia chesneli</i> Michaud	Chesnel's Risso	Deep, Gulf, On Spondylus	A
STROMBIDAE			
<i>Strombus alatus</i> Gmelin	Florida Fighting Conch	Shallow, Sand, Bays	Br D G
<i>Strombus costatus</i> Gmelin	Milk Conch	Deep, Gulf	
TEREBRIDAE			
<i>Terebra concava</i> Say	Concave Auger	Shallow, Sand, Bays	B Br G
<i>Terebra dislocata</i> Say	Common Atlantic Auger	Shallow, Sand, Bays	A B D G
<i>Terebra vinosa</i>		Shallow, Sand, Bays	B G
<i>Terebra salleana</i> Deshayes	Salle's Auger	Shallow, Sand, Gulf	A D G
THAIDAE			
<i>Thais haemastoma floridana</i> Conrad	Florida Rock Shell	Shallow, Sand, Rocks	A B G
<i>Thais haemastoma canaliculata</i> Gray Syn. <i>T. h.</i> <i>haysae</i> Clench	Hay's Rock Shell	Shallow, Sand, Rocks	A B G
TONNIDAE			
<i>Tonna galea</i> Linne	Giant Tun Shell	Mod. Deep, Gulf	D G
TROCHIDAE			
<i>Calliostoma euglyptum</i> A. Adams	Florida Top	Deep, Reef, Gulf	A D
<i>Calliostoma jujubinum tampaensis</i> Gmelin	Mottled Top	Deep, Reef, Gulf	A
TURBINIDAE			
<i>Astraea tecta</i> Lightfoot f. <i>A. imbricata</i> NOTE: ? subspecies <i>A. americana</i> Gmelin	Imbricate Star Shell	Deep Gulf	
<i>Turbo castanea</i> Gmelin	Chestnut Turban	Shallow, Grass, Bays	B D G W
TURRIDAE			
<i>Crassispira leucocyma</i> Dall f. <i>Monilispira</i> Genus	White-Knobbed Drill	Shallow, Sand, Bays	A B G W
<i>Crassispira tampaensis</i> Bartsch & Rehder Syn: <i>Crassispira bartschi</i> L. Perry		Mod. Shallow, Sand/Grass	B
<i>Cryoturris cerinella</i> Dall	Little Waxy Mangelia	Shallow, Sand/Grass	A B G
<i>Glyphoturris quadrata rugima</i> Dall		Shallow, Sand, Bays	W
<i>Kurtziella limonitella</i> Dall	Punctate Mangelia	Deep, Gulf	A
<i>Kurtziella perryae</i> Bartsch & Rehder		Shallow, Sand, Grass	B
<i>Kurtziella serga</i> Dall		Shallow, Sand Near Grass Beds, Bays	B
<i>Neodrillia cydia</i> Bartsch	Glorious Drillia	Shallow, Sand, Bays	A
<i>Pyrgocythara filosa</i> Rehder	Filose Mangelia	Shallow, Sand, Bays	B
<i>Pyrgocythara hemphilli</i> Bartsch & Rehder	Hemphill's Mangelia	Shallow, Sand, Bays	B
<i>Pyrgocythara plicosa</i> C.B. Adams	Ribbed Mangelia	Shallow, Sand, Bays	A B Br G
<i>Pyrgocythara</i> sp.		Shallow, Sand, Bays	B G
<i>Pyrgospira ostrearum</i> Stearns	Oyster Turrid	Shallow, Sand, Bays	A
NOTE: The identity of some of the Turridae is questionable.)			
TURRITELLIDAE			
<i>Vermicularia fargoi</i> Olsson	Fargo's Worm Shell	Shallow, Sand, Grass	B
<i>Vermicularia knorrii</i> Deshayes	Florida Worm Shell	Shallow, In Sponges	B G W
VOLUTIDAE			
<i>Scaphella junonia</i> Shaw	Junonia	Deep, Sand, Gulf	B Br G
XENOPHORIDAE			
<i>Xenophora conchyliophora</i> Born	Atlantic Carrier Shell	Deep, Gulf	G
PELECYPODA			
ANOMIIDAE			
<i>Anomia simplex</i> Orbigny	Atlantic Jingle	Shallow, Sand/Grass	B G W
ARCIDAE			
<i>Anadora lienosa gloridana</i> Conrad f. <i>Arca secticostata</i> Reeve	Cut-Ribbed Ark	Deep, Attached, Gulf	D
<i>Anadora transversa</i> Say f. <i>A. occidentalis</i> Philippi	Transverse Ark	Shallow, Sand/Grass	W
<i>Arca imbricata</i> Bruguiere	Mossy Ark	Mod. Deep, Attached To Rocks	B D G
<i>Arca zebra</i> Swainson	Turkey Wing	Mod. Deep, Attached To Rocks	B D G
<i>Noetia ponderosa</i> Say	Ponderous Ark	Shallow, Sand/Grass	W

CARDIIDAE			
<i>Dinocardium robustum</i> Lightfoot	Giant Atlantic Cockle	Mod. Deep, Sand, Gulf	Br D
<i>Laevicardium mortoni</i> Conrad	Morton's Egg Cockle	Shallow, Sand/Grass	D G W
<i>Laevicardium pictum</i> Ravenel	Ravenel's Egg Cockle	Deep, Sand, Gulf	D
<i>Papyridea soleniformis</i> Bruguiere f: <i>P. hiatus</i> Meuschen	Spiny Paper Cockle	Deep, Sand, Gulf	D
<i>Trachycardium egmontianum</i> Shuttleworth	Prickly Cockle	Shallow, Sand, Grass	B Br G W
<i>Trachycardium muricatum</i> Linne	Yellow Cockle	Shallow, Sand/Grass	G
CARDITIDAE			
<i>Carditamera floridana</i> Conrad f:			
<i>Cardita</i> Genus	Florida Cardita	Shallow, Sand	D G W
CHAMIDAE (Syn. <i>Echinochama</i> )			
<i>Arcinella cornuta</i> Conrad			
f: <i>Echinochama arcinella</i> Lamarck	Spiny Jewel Box	Deep, Gulf	A D G
<i>Chama congregata</i> Conrad	Little Corrugated Jewel Box	Mod. Deep, Attached To Other Bivalves	G
<i>Chama macerophylla</i> Gmelin	Leafy Jewel Box	Deep, Reef, Gulf	D H
<i>Pseudochama radians</i> Lamarck	Atlantic Left-Handed Jewel Box	Mod. Deep On Rocks	B G
CRASSATELLIDAE			
<i>Eucrassatella speciosa</i> A. Adams	Gibb's Clam	Mod. Deep, Gulf	G
DIPLONDONTIDAE			
<i>Diplondonta punctata</i> Say f: <i>Tarus</i> Genus	Atlantic Diplondonta	Shallow, Sand, Bay	W
DONACIDAE			
<i>Donax variabilis</i> Say	Coquina	Shallow, Gulf	D G W
GLYCYMERIDIDAE			
<i>Glycymeris americana</i> DeFrance	Giant American Bittersweet	Deep, Gulf	G
HIATELLIDAE			
<i>Panopea bitruncata</i> Conrad	Atlantic Geoduck	Mod. Deep, Bay	B
LIMIDAE			
<i>Lima pellucida</i> C.B. Adams	Antillean Lima	Shallow, Bay	B W
LUCINIDAE			
<i>Phacoides nassula</i> Conrad	Woven Lucine	Shallow, Sand/Grass Bays	B G
MACTRIDAE			
<i>Mactra fragilis</i> Gmelin	Fragile Atlantic Mactra	Shallow, Sand	W
<i>Spisula solidissima</i> Dillwyn	Atlantic Surf Clam	Shallow, Sand, Gulf	B G
MYTILIDAE			
<i>Brachidontes recurvus</i> Raginesque			
f: <i>Mytilus hamatus</i> Say	Hooken Mussel	Shallow, Bayou	D
<i>Modiolus americanus</i> Leach	Tulip Mussel	Shallow, Sand/Grass	W
<i>Modiolus demissa granosissima</i> Sowerby	Ribbed Mussel	Shallow, Sand/Grass	W
OSTRIDAE			
<i>Crassostrea virginica</i> Gmelin	Eastern Oyster	Shallow, Bay	B G W
<i>Ostrea equestris</i> Say	Creasted Oyster	Shallow, Attached To Dead Shells	B W
<i>Ostrea frons</i> Linne	Coon Oyster	Deep, Gulf, Attached	D G
<i>Pinctada imbricata</i> Roding	Atlantic Pearl Oyster	Mod. Deep, Gulf	G
PANDORIDAE			
<i>Pandora trilineata</i> Say	Three-Lined Pandora	Deep, Sand, Gulf	D
PECTINIDAE			
<i>Aequipecten gibbus</i> Linne	Calico Scallop	Deep, Sand, Gulf	D G
<i>Aequipecten mucosus</i> Wood	Rough Scallop	Deep, Gulf	G
<i>Argopecten irradians concentricus</i> Say	Atlantic Bay Scallop	Shallow, Sand/Grass, Bays	B D G
<i>Lyropecten nodosus</i> Linne	Lion's Paw	Deep, Sand, Gulf	D G H
<i>Pecten raveneli</i> Dall	Ravenel's Scallop	Deep, Sand, Gulf	D
PETRICOLINAE			
<i>Petricola pholadiformis</i> Lamarck	False Angel Wing	Drift, After Storm	G
PINNIDAE			
<i>Atrina rigida</i> Lightfoot	Rigid Pen	Shallow, Grass, Bays	W
<i>Atrina seminuda</i> Lamarck	Half Naked Pen	Shallow, Sand, Grass	W
<i>Atrina serrata</i> Sowerby	Saw-Toothed Pen	Shallow, Sand, Bays	W
PTERIIDAE			
<i>Pteria colymbus</i> Roding	Winged Oyster	Shallow & Deep	
SANGUINOLARIIDAE			
<i>Tagelus plebius</i> Lightfoot	Stout Tagelus	Shallow, Sand, Bays	W
SOLENIIDAE			
<i>Ensis minor</i> Dall	Dwarf Razor Clam	Shallow, Sand, Bays	W
SPONDYLIDAE			
<i>Spondylus americanus</i> Hermann	Atlantic Thorny Oyster	Deep, Gulf, Attached	D G H
TELLINIDAE			
<i>Tellina iris</i> Say	Iris Tellin	Deep, Sand Gulf	D
<i>Tellina listeri</i> Roding	Speckled Tellin	Shallow, Sand, Bays,	G
VENERIDAE			
<i>Anomalocardia cuneimeris</i> Conrad	Pointed Venus	Shallow, Sand, Bays	G W
<i>Chione cancellata</i> Linne	Cross-Barred Venus	Shallow, Sand, Bays	B Br D G
<i>Chione intapurpurea</i> Linne	Lady-In-Waiting-Venus	Deep, Sand, Gulf	D G
<i>Chione latilirata</i> Conrad	Imperial Venus	Deep, Sand, Gulf	D G
<i>Macrocallista maculata</i> Linne	Calico Clam	Deep, Sand, Gulf	D G
<i>Macrocallista nimbosa</i> Lightfoot	Sunray Venus	Shallow, Sand, Bays	D G
<i>Mercenaria campechiensis</i> Gmelin	Southern Quahog	Mod. Shallow, Bays	B Br W
<i>Transennela conradina</i> Conrad	Conrad's Transennella	Shallow, Sand	B G



Figs. 1 & 2. Side and apertural views of a large female specimen of *Bursa californica* collected off Santa Barbara, CA.

## CALIFORNIA SEASHELLS PART VIII: BURSIDAE

by C. GLASS & R. FOSTER

### *Bursa californica* (Hinds, 1843)\*

Here again we have a family with only one representative in California waters. Its closest relative, geographically and morphologically, is *Bursa sonorana* Berry, 1960, from the Gulf of California in northwestern Mexico, considered by some to be a subspecies of *B. californica*. It differs from the latter by its smaller size, higher spire and smaller, sharper nodes.

Members of the Bursidae are commonly referred to as "frog shells," probably because of the nodose or "warty" appearance and, particularly, because of the characteristic of only 2 varices per whorl which gives them a squat, flattened appearance.

The California frog shell grows to about 130mm. Wagner & Abbott list 159mm as the record size. The shell is light tan with a white aperture, shaded and textured with spiral sculpture of yellowish tan and pale brown cords and nodes. Shells have a light, chalky covering which may prove to be an intritacalx.

The range is given as extending from Monterey Bay, California, to the Gulf of California. Most specimens which we have seen were collected by Glass in 65 to 80 feet on a low, rubbly, silty, reef out of the Santa Barbara harbor. We have also found the species in a similar situation out of the Los Angeles Harbor.

\* Alan Beu, specialist in the Bursidae, places the California frog shell in the genus *Crossata* rather than *Bursa* (personal communication).

It has been most interesting to observe the "setting" habit of the females. We have seen many large *Bursa californica* which have laid their eggs in concentric masses on half shells of bivalves and then set on the eggs, even adding extra length to their "skirt" or lip to completely cover the egg mass. We have collected some of these shells, with eggs and half-shell nests, to observe them in the aquarium. In all cases the animals continued to set on the eggs for 5 weeks, without moving for any reason including feeding. At the end of the 5 week period, the female *Bursa* lifts herself off the eggs and fans the egg mass with her foot, causing a current which helps release the veligers and send them on their way!

It is also interesting to note that the operculum, which fairly effectively covers the entire aperture in young, small specimens, does not apparently grow in size after this point but seems to erode with age, to the point that in larger specimens it not only no longer fills the aperture, but has undoubtedly become smaller with age and wear.

#### REFERENCES:

- Abbott, R. Tucker, 1974. American Seashells, 2nd Edition, Van Nostrand Reinhold.
- Keen, A. Myra, 1971. Sea Shells of Tropical West America, Second Edition, Stanford Univ. Press.
- McLean, James H., 1969. Marine Shells of Southern California, Los Angeles County Museum of Natural History Science Series 24, Zoology No. 11.
- Wagner, Robert J. L. & R. Tucker Abbott, 1985. World Size Records, Supplement 3, Standard Catalog of Shells, American Malacologists, Inc., Melbourne, FL.

#### ANNUAL WEST COAST SHELL SHOW

Plan now on exhibiting in (or at least attending) the annual West Coast Shell Show to be held Saturday and Sunday, October 12th and 13th in beautiful Santa Barbara, California. The show will again be held in conjunction with the "Fiesta of Gems" and at the spacious Earl Warren Showgrounds. For further information or registration forms write: West Coast Shell Show, Box 30191, Santa Barbara, CA 93130.



## HELPFUL HINTS FOR COLLECTORS

by MINICYP

### Data Slips

Data slips are nothing more nor less than an organized way of tabulating the information that one has, on a given shell. The same information could, just as well, be kept in a ledger, computer memory, card file or what have you. The important thing is to be able to tie the shell with its data. The singular advantage of a data slip is that it is small enough to be kept with the shell. A data slip can be folded up and stuffed into the aperture of the shell or put into a bottle or box with the shell. It is also much more convenient to work with the data and the shell if they are together rather than separate as they would be if the data was in a ledger.

The amount of data, about a shell, that is retained is up to the owner. The amount of data can be as comprehensive or as simple as one wishes to make it. Let's view the amount of data that could be kept from the viewpoint of the idealist. By doing it this way everything gets covered.

The first bit of information should be a number. The same number should be inscribed on the shell or shells to which the data applies. If, for some reason, the shell and the data should become separated (and it does happen) the same number on the shell and on the data slip permits you to tie them together again. The number also serves as the tie where other methods, such as a ledger, are used to record the shell's data. With shells where there is not enough space to record a number on the shell the usual practice is to put the number on a slip of paper and put both the shell and the slip of paper in the same container. Alternatively the shell can be attached to a slide and the number written on the slide.

The best way to put the number on the shell is with India ink. The shell must be clean. It also helps to mix a couple of drops of white glue with a bottle of the ink. To insure the ink will stick on shells such as cowries, olives and marginellas, it may be necessary to lightly abrade the shell with number 600 sandpaper. It is also possible, but less desirable, to put the number on a small gummed label stuck to the shell. This method is particularly useful for small shells.

The next item that usually appears on the data slip is the species name. For some strange reason many data slips have one line for the genus name and a second line for the species name. Since the species name is always a binomen which includes the genus name a single line should be adequate.

The species' name should be followed by the author and the data (publication). It is also useful to include the reference used for the identification of the shell such as *The Living Couriers* by Burgess.

Where did the shell come from? This data, other than the number, is the most important information to be recorded. Location data should be as definitive as possible. If at all possible the collecting location should be referred to permanent geographic features. Man made things tend to get torn down, washed away or otherwise disappear. As a result collecting locations may be hard, if not impossible, to locate later on if man-made features are used to locate collecting spots. Even names sometimes get changed so it is also helpful if the collecting location can be referred to a map.

Following the collecting location data should be the date that the shell was collected. Where place names change and even geographic features change with time the inclusion of the collecting date permits future workers to refer to maps, covering the same time period, to locate the collecting area. The date is also important in dealing with time sequential information relating to a specific collecting area. For example a species once found in a given collecting area may no longer be found in the area. Without collecting dates there will be no way to establish this fact.

Besides the collecting location and date it is useful to know the mollusk's habitat. The habitat data should include the substrate (mud, sand, coral, rubble, etc.) where the living mollusk was found. The mollusk location in relationship to the substrate should be recorded. Was the creature under rock, buried in the mud, on seaweed or coral, etc.? How deep was the shell? In other words what was the shell's environment?

Particularly with shallow water species it is nice to know the relevant ambient conditions which existed when the shell was collected. Ambient conditions include:

Air temperature	Water turbulence
Water temperature	Water turbidity, pH and salinity
Tidal phase	Moon phase
Time of day (day-night)	

With deep water species much of the ambient data is probably of little value and need not be recorded.

Whether or not the specimen was live when collected is significant. If the creature was dead the habitat data and ambient conditions will probably have little meaning. If the shell was fresh dead (still containing some of the soft parts) or crabbed or beach should be included in the data.

The means by which the shell was collected is also worth recording. Was the shell collected in tangle nets, by trawling, by a scuba diver, by dredging or whatever? The means of collecting will frequently explain the absence of some data. For example if the shell was collected by trawling at 100 meters it is very unlikely that any useful habitat data will be available.

It is also nice but not necessary to record the size of the shell (length, width and height) along with any unusual features of the shell such as color or relative size (large/small for the species) or other characteristics. Some people like to record the source of their shell if it was purchased or traded. If the shell came from a well known collection this fact is worth knowing.

OK, so this is the data that could be kept, but why? First of all, because any shell with good data has a potential scientific value. If you intend to sell your collection, or your heirs will sell it, the presence of good data will almost always enhance the value of the collection. If you intend to leave your collection to a scientific institution good data is a must. If you intend to exhibit your collection many exhibit sponsors require, as a minimum, location data. On the other hand, if you are collecting purely for your own personal pleasure then the data may be of no importance. I met one collector who collected shells purely for their beauty. The data meant nothing to this collector. The data slip went into the wastebasket when the shell joined the collection. Another collector, whose collection was made up of self collected shells, came as close as anyone I have known, including professional collectors, to having "perfect" data on each and every shell. Both of these collectors enjoyed their collections equally well.

Unfortunately, because a shell, accompanied by data is worth more than a shell without data, data is sometimes faked. Data is also faked to conceal where a particular species is to be found. Faked data is much worse than no data at all.

It is extremely rare that all of the data listed will be available or for that matter relevant. What is the minimum data that the collector should try to keep on their shells? The three most important bits of information, that should be in the data record, are the shell number, the collecting location and the date of collection. The next most useful information is the habitat data. The ambient conditions existing at the time the shell was collected is most useful for shallow water and intertidal species. The rest of the information is recorded as a matter of convenience, not necessity. For example with the shell and the collecting location data the species can always be identified. The shell can be measured at any convenient time.

So much for the what of the data, let us look now at how to record the data. The author recently purchased an old collection. I'm not sure what sort of paper the original owner used for his data slips but I do know the data slips came out of the shells in small pieces. I ended up with both the shells and a whole series of unwelcome jigsaw puzzles. The data should be recorded on high quality paper be it on data slips or in a ledger (these days high quality disks or tapes should be included). Acid free prelude paper is ideal for data slips. This paper is thin, strong and long lasting. Even better, but much more expensive, is polypaper. This paper has the added virtue of being water proof. It can actually be put in the jar with the preserved specimen. On the other hand high quality bond paper is probably good enough in most circumstances. Where a ledger is being used a high quality notebook such as lab notebooks which are available from laboratory supply houses are ideal. Polypaper notebooks are also available but the cost is probably not justified. Again any good quality notebook is adequate for most situations. The important point is to record your data on paper that will not self destruct.

India ink is pretty much the standard recording medium. India ink does not fade, does not harm the paper and is somewhat water resistant. Again scientific markers with waterproof, fadeproof ink are available from scientific supply houses.

The format that one uses for recording the data is pretty much a personal matter. Don't use a personal shorthand even if you leave a key. Data recorded in a personal shorthand will be a pain-in-the-neck for the next owner of your collection.

Shown below is the format which I use for my data slips. It has a space for all of the information which is usually available. Any added information can be put on the back of the data slip.

Species	No. _____
Authority	_____
Locality	_____
Habitat	_____
Depth	Date _____
Collector	_____
Size L. _____ mm W. _____ mm H. _____ mm	
Remarks	_____

Some dealers carry data slips with different formats. Filing programs (software) are available for all personal computers if this is the route you choose. If you go the computer route keep a printout available.

It can also be convenient to cross index your shell data (this is where the personal computer really shines). For example with a large collection of one genus a cross index by species and subspecies is useful. A cross index by collecting location is nice if you are trying to develop a range collection of a species. The cross index that you set up will depend upon what information you want at hand.

I have tried to develop the data that would be required for an ideal system for a shell collection. How to record the data and how to tie the data to the shell to which the data applies. In the real world it will be rare to ever have much more than the minimum data on a shell unless you collect the shell yourself. What data you keep and how you record the data is up to you. Keep the data you want to keep. If keeping data interferes with your enjoyment of shell collecting then forget the data. For many people the more they know about the shells in their collection (the better data they have) the more they enjoy their collection. There are others that could care less. Most of us are somewhere in the middle.

In the next issue we will talk about some of the ins and outs of nomenclature. If there are specific you would like covered in this column let me know. Good shelling.

R. H. JONES  
1432 Dorsch Rd.  
South Euclid, Ohio 44121

#### SHELL CLUBS

There are a few address changes to the "Shell Clubs Around the World" published with the 1984 C.O.A. Roster:

West Coast U.S.A. Clubs, California:

**Pacific Shell Club, Inc.**  
c/o Rae Smith, 1026 League Ave., La Puente, CA 91744

Florida Shell Clubs:

**Fort Myers Beach Shell Club**  
c/o Charles Vertefuille, 444 Palermo Circle, Ft. Myers Beach, FL 33931

**Suncoast Conchologists**  
P.O. Box 1564, Palm Harbor, FL 33563

The last of these is a new club, already with over 50 members, and it's the 19th shell club in Florida!

#### LETTERS (continued from page 2)

relationship with the customer is almost like a love affair. Most shell dealers enjoy the business they are in and appreciate the patronage of their customers which enables them to successfully pursue that enjoyable profession. For the sake of their own self-respect, and for the pleasure of their clientele, they try to supply the best material possible, and look forward to the patronage of their regular customers, not just for the income but for the pleasure of the relationship.

There are, of course, exceptions. We know of one dealer who sold a customer a slit-shell, *Pleurotomaria rumphii*; fully one half of the last whorl had been ground away and a new "slit" had been cut with a saw! This nearly worthless shell was sold for \$2,000.00!!! Another customer-friend of ours tells about another dealer who sent him as a live, gem specimen of *Conus cervus*, a specimen which not only turned out to be dead, but had filled-in bore holes, and two bad, artificially repaired breaks and a badly filed lip! A new, inexperienced collector may be fooled by such specimens and should seek evaluation of questionable, expensive new acquisitions by more knowledgeable, experienced collectors or specialists, so that unacceptable shells may be promptly returned. Of course, dealers can also make mistakes and occasionally overlook seemingly obvious flaws. The best guide in evaluating dealers, is how fast, fully and graciously they make restitution for such a shell, and how good is the overall quality of service and goods.

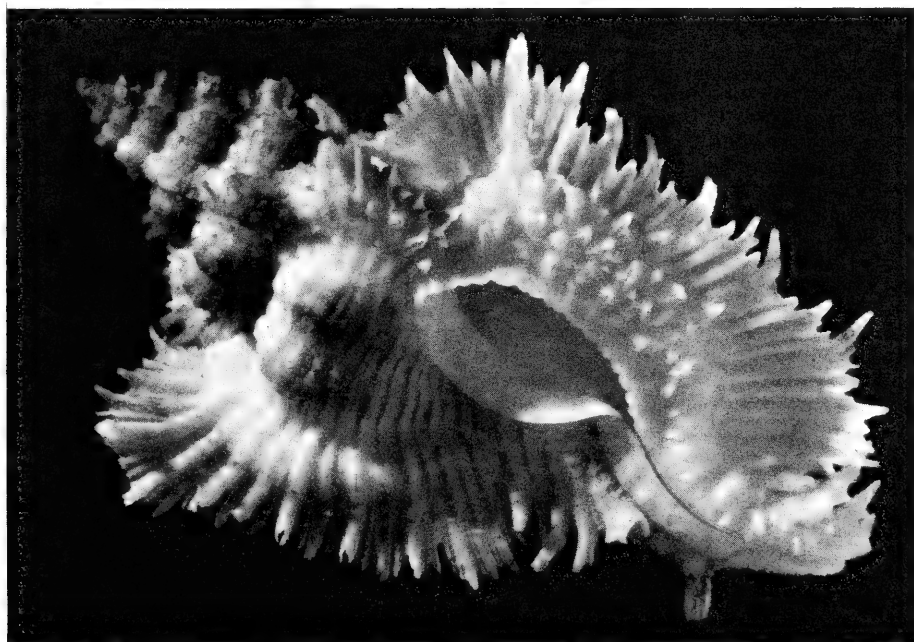
But, referring to the prompt return of unacceptable shell purchases, there has been some question raised in our fellow publication, *Shells and Sea Life* (Vol. 16:12, 1984, "Dealing with Dealers" by David Delucia), as to how promptly shells should be returned. It is suggested that shells be returned within 2 weeks of receipt. Most dealers are very reasonable about accepting back any shells which are not exactly what their customers want for whatever reason, but it would seem that normal consideration would dictate how soon shells should be returned. The "Golden Rule" may be trite, but it does offer answers to many questions. Would you expect to wait two weeks before an order you placed with a dealer was filled and shipped or would you expect and hope that the order would be attended to within a day or two?

It was debated at a board meeting during the last C.O.A. Convention whether the C.O.A. should screen the dealers who are allowed to advertise in the Bulletin, or warn its members about dealers about whom they had received complaints. It was decided that such a screening process would be impossible for an organization such as ours, and that even if it were possible it may not, in a free-enterprise system, be desirable. It was also considered that a warning about specific dealers would be dangerously unfair, for one would also have to consider the honesty and rationality of the individual making the complaint! It was decided that the best solution would be to offer guidelines in how to purchase shells, particularly from mail-order dealers.

The best suggestion we can offer is to approach a dealer with whom you have not dealt before with a reasonable amount of caution, and let your first order be moderate in size and price so that you can judge the quality of goods and services you receive.

In a future issue we will show you some startling examples of "repaired" shells.

The Editors



#### — AND PICTURES TO THE EDITOR

*Pterynotus brianbaileyi* Mülh user, 1984, a 70mm specimen in the Bennett Collection, Fort Myers, Florida. Jo Bennett writes, in reference to our comments about *P. brianbaileyi* ("What's New," Vol. 12:3, 37, 1984), "We agree, 'It is not ugly!' . . . We have won 'Shell of the Show' with this shell twice: once as *Pterynotus loebbeckei* and once as *Pterynotus miyokoeae*. If we ever enter it again and win, we surely would set a record by winning three times with one shell under three different names!"

## COA GRAND TROPHY WINNERS

Midwest Regional Shell Show — Indianapolis, Ind. Aug. 11, 12, 1984

Winner: Judith Brooks

Title of Display: Cowries — The Little Figs . . .

The display consists of 36 feet of *Cypraea*, starting with information on the animal, and shell structure, uses by man, and featuring 28 feet of shell, divided into localities, with corresponding maps. There are approximately 136 species shown.

This exhibitor started collecting shells in 1970, and always preferred *Cypraea*. She is a charter member of the Crown Point Shell Collectors Study Group, and has held several offices over the years. Displaying shells started in earnest in 1980 at the Indianapolis club's Midwest Regional Show.



Fig. 1. Judith Brooks' winning smile!

North Carolina Shell Club Shell Show — Wilmington, N.C. Nov. 9-10, 1984

Winner: Duane Le Schilz

Title of Display: A Study of Living Mollusks

Duane had a fantastic twenty-four feet of cases of living mollusks featuring sculptured animals. The most fantastic feature of this display is that Duane sculptured these living animals himself.

One section of the display was NAUTILUS — A LIVING FOSSIL. Duane had a Hologram, etched by laser beam, of the inside of the shell. This was a special feature for the entire shell show, as many people had never seen this done, and stopped to gaze and ask questions.

We believe Duane to be the youngest exhibitor to ever win a Conchologist of America award.

Duane has been sculpturing since he was three years old; he is now 19. He has never had a lesson in sculpture or art; it is a natural talent. After the show, Duane's display was carried to the Museum of World Cultures under development at the University of North Carolina in Wilmington. Duane has done many other models or sculptures of sea life for this new, up-coming museum.

Gulf Coast Shell Club Shell Show, Panama City, FL. October 20 & 21, 1984

Winner: Lee King

Title of Display: Cones: The Classic Collectables

35 feet of cones from around the world. The display contained x-rays of cone shells, a section of poisonous cones, examples of different conical shapes and animal and shell photographs.

Lee has always had an interest in the sea and a love of shells, however, it has been only in the last two years that she has become a serious collector. A Pennsylvania native, she has spent most of her adult life in Florida. The Gulf Coast Shell Club is the first shell organization she has joined and she has

been in it since it began in 1979. She resides in Panama City Beach, Florida near her daughter and two grandchildren.



Fig. 3. Lee King of Panama City, FL, and the Gulf Coast Shell Club with her COA award and cone display.

Central Florida Shell Show, Orlando, Florida, January 18-20, 1985

Winners: John R. & Judith M. Van Buren

Title of Display: Color Forms of Port Canaveral Scallops

Their 30 foot display featured a 1½ inch *Propeamussium dalli*, a rare, thin, transparent shell, *Argopecten gibbus*, *Chlamys benedicti*, *Aequipecten muscosus*, *Pecten raveneli* and *Lyropecten nodosus*. This display included photos taken by John on scallop boats and at the north dock scallop dump at Port Canaveral. Exhibit also included a closeup photo of a living *Argopecten gibbus* from Charlie Hertweck.

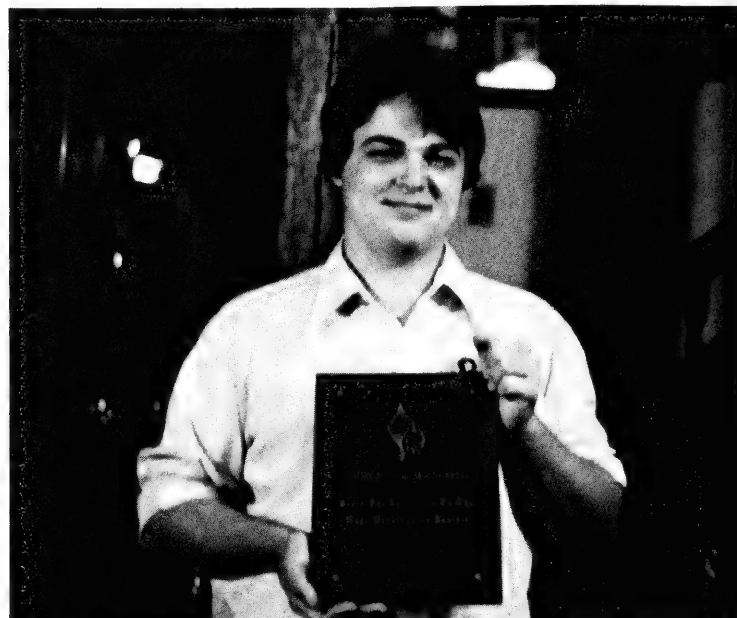


Fig. 2. Duane Le Schilz, at 19 the youngest recipient of a C.O.A. Grand Trophy.



*gibbus* from Charlie Hertweck.

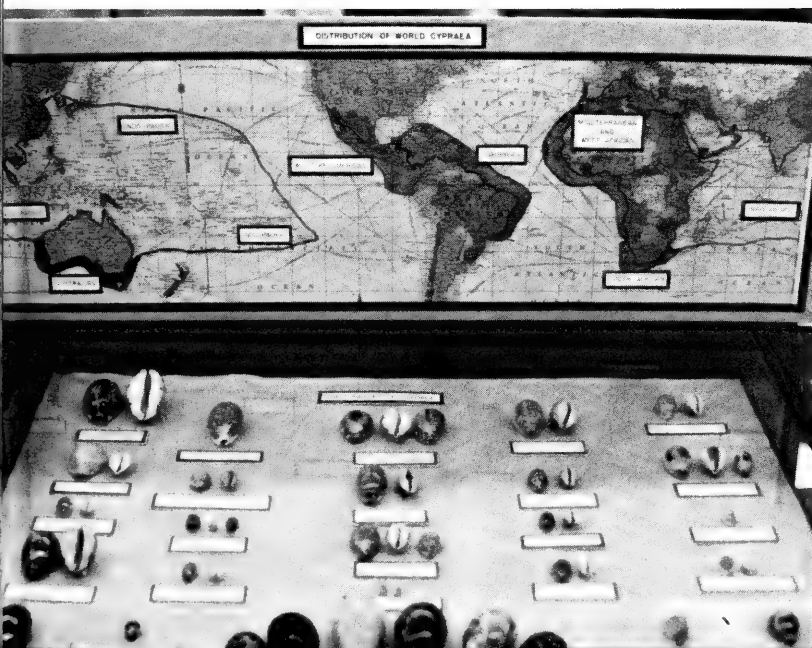
John was a member of the Burroughs Audubon Society in Rochester N.Y. He belonged to Rochester museum clubs, Boy Scouts and worked a short time at Ward's Natural Science Establishment before Army duty. They had a small shell collection before moving to Florida thirteen years ago.

Judy is a big help in research work, cleaning of some shells and typing labels.



Fig. 4. C.O.A. Grand Trophy Winners, John and Judy Van Buren. Photograph by Ray Powell.

Figs. 5 & 6. Mrs. Virginia Lee and her prize-winning cowry display.



Southwest Florida Conchologist Society Shell Show, Fort Myers, Florida, Jan. 18-20, 1985

Winner: Mrs. Virginia Lee

Title of Display: World-Wide Cypraea

The display consisted of 8 large cases covering 22 linear feet, including 188 different valid species and subspecies.

Mrs. Lee was president of the Southwest Florida Conchologist Society, Inc. during 1984 and has been collecting sea shells for over 20 years, even though for most of that time she lived about as far from salt water as one get in our country, in Minneapolis, Minnesota, where she was a charter member and past president of the Minnesota Conchologist Society. The lure of the sea and sea shells brought Mrs. Lee and her husband Dorrance ("Pete"), to Fort Myers four years ago to be near the famous shelling areas around Sanibel Island and the Florida Keys.

Mrs. Lee's exhibit is a prime example of husband and wife teamwork: she collected the shells and Pete made the beautiful exhibit cases.

### YOU KNOW YOU'RE A NEUROTIC COLLECTOR WHEN ...

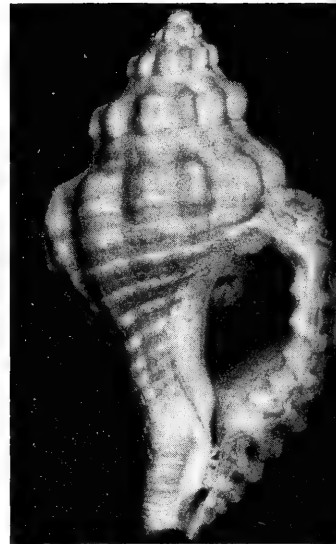
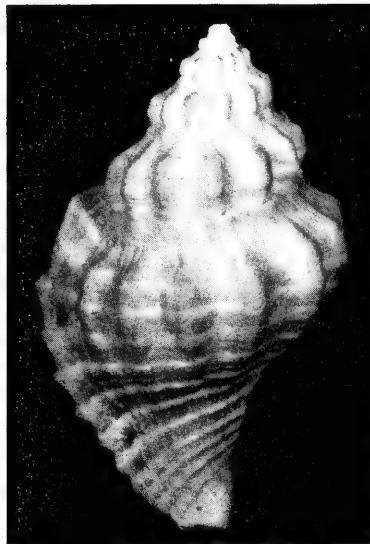
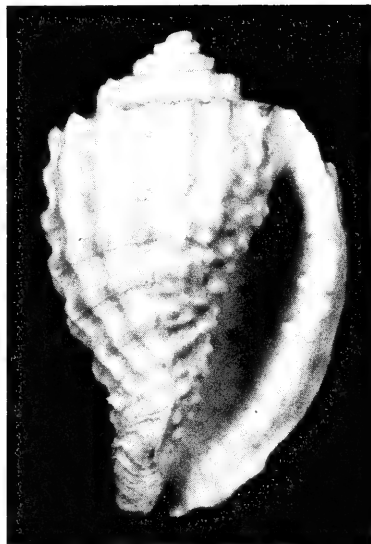
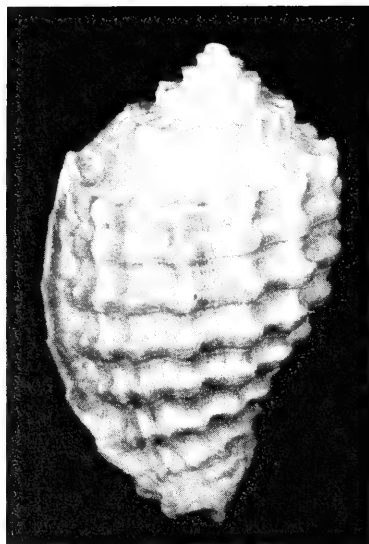
by DAVE DeLUCIA  
7 Sunset Hill Dr.,  
Branford, CT 06405

There are three stages of shell collecting: beginning, intermediate, and neurotic. The last of these is the most subtle, creeping up on you when you least expect it. You know you're a neurotic collector when ...

1. You spend two hours cleaning a shell, then throw it away after discovering a pinhole in the spire.
2. You get upset because *Dolicholatirus cayohuesonicus* is misspelled.
3. You start checking *inside* the lip for defects.
4. You consider it a personal defeat to buy a shell without an operculum.
5. You prepare "Nomenclature Notes" for a dealer's list and actually have the nerve to send them.
6. Your want list consist of 100 species, 99 of which there is only one specimen known.
7. You refuse to buy any shells with just "basic data".
8. You go through your data slips with an atlas correcting typos.
9. You buy a new specimen of a particular species because it's one millimeter larger than the one you already have.
10. You baby oil your fossils.
11. You order the same species from five different dealers because you're afraid it'll be sold out.
12. You are surprised to find minor flaws in shells you were convinced were "gem".
13. You do your best to get a color series of *Voluta lutosa* and a growth series of *Marginella aureocincta*.
14. You memorize the index of American Seashells (including the errors).
15. You prefer the term "fastidious" to "neurotic".







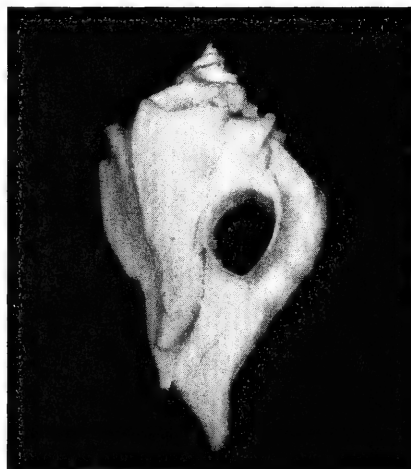
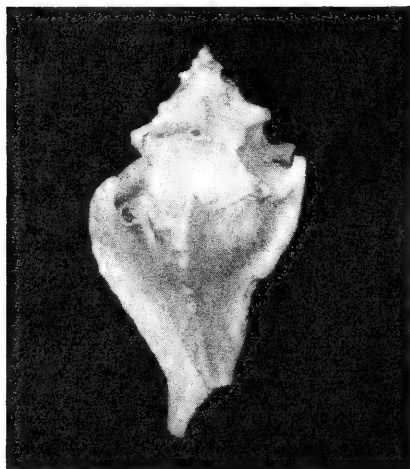
Figs. 1 & 2. *Morum (Oniscidia) macgintyi* Maxwell Smith, 1937, from La Belle (or younger formations), never at Sarasota; a 23.7mm specimen, AbS 84-710.  
Figs. 3 & 4 (Right). *Eupleura caudata* (Say, 1822), the La Belle form, specimens from Sarasota being more angulate; a 26mm specimen, AbS 84-827.

## FLORIDA FOSSILS

### PART II

leg. R. FOSTER, C. GLASS & D. DUNHILL  
det CHARLIE HERTWECK

One of the exciting aspects to the sheller visiting Florida is poking around in sand and gravel pits for specimens of Florida's Tertiary shell fossils. This was one of the activities during the recent Florida conventions, and shown here are some of the exciting finds from the Sarasota and La Belle pits.



Figs. 5 & 6. *Typhis (Typhinellus) floridanus* Dall, 1889, these are exactly the same from La Belle and Sarasota; a 21mm specimen, AbS 84-804.

Fig. 8. *Trivia pediculus* (Linne, 1758); an 18mm specimen, AbS 84-713.

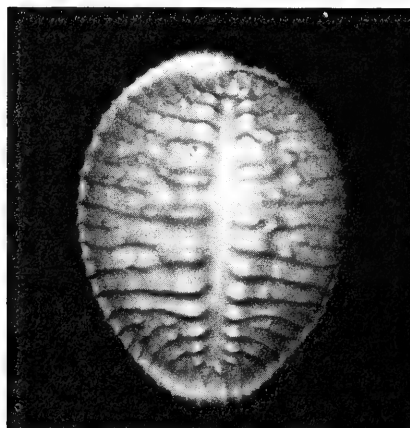


Fig. 9. *Turbo (Taeniaturbo) rhexogrammicus* Dall, 1892, with operculum! A 32.7mm specimen from La Belle, AbS 84-967.

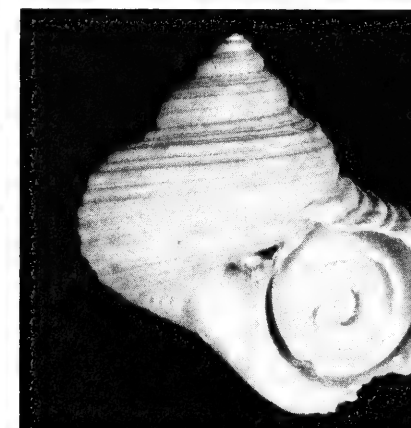


Fig. 7. *Viviparus georgianus* (Lea, 1834), a fossil fresh water mollusk from La Belle! 2 specimens, 11.8mm and 9.5mm long, AbS 84-1024 & 1026.

Fig. 10. *Plicatula cf. marginata* Say, 1824, a very variable species, most of which look like the present day *Plicatula gibbosa* or common "kitten's paw" ... our nickname for the fossil is "jaws!" A 20.5mm specimen from Sarasota, AbS 84-1358.





Fig. 1. *Strophocheilus* (*Megalobulimus*) *popelairianus* (Nyst, 1845), a sinistral & dextral specimen from Puyo, Ecuador. Photo by R.L. Goldberg.

## A SINISTRAL STROPHOCHEILUS

by RICHARD L. GOLDBERG

Sinistrality in certain genera of land mollusks is commonplace, such as the *Amphidromus* of southeast Asia, and the *Achatinella* of Oahu, Hawaii, where many species exhibit both sinistral and dextral specimens. With other genera it is downright rare, such as the *Strophocheilus* of South America and the Caribbean.

Up until this year (1985), only two sinistral species in the genus had been recorded. The first was a sinistral specimen of *Strophocheilus* (*Megalobulimus*) *leucostoma* (Sowerby, 1835), a form described by Blume (1920) as *sinistralis*. The second was recorded by Bequaert (1948) in his monograph on the *Strophocheilidae*, of a sinistral specimen of *S. (M.) oblongus haemastoma* (Scopoli, 1786), located in the collection of the American Museum of Natural History.

A third sinistral specimen of *Strophocheilus*, *S. (M.) popelairianus* (Nyst, 1845) has been collected in the Puyo area of Ecuador, in 1984. This specimen of the largest of the *Strophocheilid* species bring to light how excessively rare sinistrality is in this group.

*S. (M.) popelairianus* is found from Columbia and Ecuador, through Peru. Normally dextral specimens of this species are quite variable in size, shape and surface malleation, or lack of it. It ranges in size from 110-168mm. It is the second largest living species of terrestrial mollusk. There is no clear-cut correlation between its variation and geographic distribution.

The animal of *S. (M.) popelairianus* was a food source commonly found in the markets of Ecuador in the late 1800's, but is now only eaten by some Ecuadorian tribes in the Amazon Valley.

An unusual characteristic of the *Strophocheilids* are that they hatch from calcareous eggs, similar to a bird's egg. The eggs of *S. (M.) popelairianus* are elliptical, white, smooth, and from 47-51 mm in length.

This third recorded sinistral *Strophocheilus* is 127 mm in length and 83 mm at its widest point.

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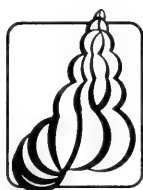
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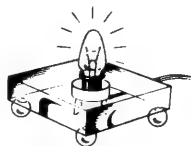
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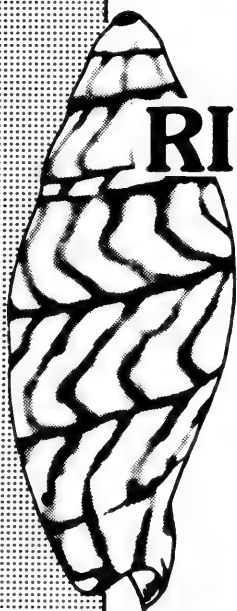
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The Thirteenth Annual Convention of the C.O.A. will be held in Philadelphia, Pennsylvania from June 22nd through 26th, 1985. The Philadelphia Shell Club extends a warm welcome to you all to visit America's most historic city and nation's first capitol.

The convention site will be the Holiday Inn, Independence Mall, 4th & Arch Streets. You are just minutes away from the most historic square mile in America. The Inn is giving us special discount rates of \$58.00 single, and \$66.00 double, plus 9% tax, per room, and includes free parking for guests. There is a charge of \$8.00 for a rollaway bed. Fill out the enclosed registration form for the hotel and mail directly to the Holiday Inn by May 25th to assure accommodations. There will be other accommodations available in the city. Dormitory accommodations are also available at the University of Pennsylvania and if interested, please write to us for information.

Our Special Exhibit Room and Hospitality Room are next to each other so you can enjoy friends and exhibits at the same time.

**Saturday, June 22nd:** Registration will begin at 10:00 A.M. in the lobby of Holiday Inn. Pre-registration fee is \$25.00 per person through May 25th. After that date it will cost \$30.00. Save \$5.00 by sending your pre-registration form in early. Registration forms for your convenience are included as part of the insert. Fill out and return early! After an afternoon program of informative lectures, you are invited to be the guests of the Philadelphia Shell Club at the Academy of Natural Sciences. Get acquainted and help us celebrate our 30th Anniversary as a shell club. We'll serve you a sumptuous buffet followed by mini tours of the Department of Malacology conducted by Dr. George Davis and his staff. This will be a most interesting and stimulating evening amidst the stuffed animals, fossils, dinosaurs and of course, specimen shells. A shuttle bus will be available to take you to the Academy of Natural Sciences and return you to the Holiday Inn.

**Sunday, June 23rd:** Rise and shine! Make sure you get to the meeting room in time for our great door prizes! You must be there wearing your convention badge in order to qualify as a winner. The morning program will consist of three lectures. After a lunch break and maybe stepping outside to explore the historic area in which you are staying, there will be an interesting afternoon schedule of workshops. Time off for a leisurely dinner on your own. Return in time to the Holiday Inn to allow yourself enough time (6:00 to 7:30 P.M.) to inspect the wonderful array of specimen shells to be auctioned off that evening.

**Monday, June 24th:** Hurry! Hurry! Hurry! Our Dealers' Bourse begins 9:00 A.M. to 12:00 Noon in the Franklin Room, Lobby Level, Holiday Inn. Take time for lunch and a look at your purchases and then back to the meeting room for door prizes and

informative programs. We'll have a little break for Birthday Cake and Coffee before our annual business meeting and election of officers. More door prizes during the business meeting. Mini tours of the city will be offered this evening. A choice will be offered in your registration packet when you arrive on Saturday.

**Tuesday, June 25th:** 9:00 A.M. — Door Prizes Philly Style! The last of our illustrated lecture programs will be scheduled this morning. Bourse will be open this afternoon from 1:30 to 3:30 P.M. Our Bourse Dealers welcome you to browse and buy their marvelous specimen shells. Time to get ready for a big evening! You will be going to Academy of Music Ballroom; the oldest opera house in the United States, and one of the most elegant, is the scene of tonight's banquet. Cocktails (cash bar) will begin at 6:00 P.M. followed by a grand banquet. Dr. Thomas Waller of the Smithsonian Institute is our featured speaker of the evening, and you won't want to miss our SUPER entertainment that will be remembered long after the banquet is over. Again, a shuttle bus will transport you to and from the Holiday Inn.

**Wednesday, June 26th:** Last chance for the Dealers' Bourse! If you haven't bought that special shell — go for it! An afternoon luncheon cruise is planned aboard the "Spirit of Philadelphia". Enjoy harbor sightseeing and a pleasant lunch. The cost will be \$13.00 per person, including tax. Other optional field trips are being developed for the final day. You will be advised of these in the next bulletin and in your registration packets.

For those of you who are heading south when the convention is over, Dr. Barbara Butler and Russ Jensen of the Delaware Museum of Natural History, Wilmington, Delaware, extend a cordial invitation to stop there on Thursday, June 27th. You will be guided through special exhibits and be given a behind the scenes tour. The Delaware Museum promises to give us more details later.

In keeping the tradition of the annual shell auction, we once again come to you, the members and dealers, for specimen shell donations. Contributions will be greatly appreciated and will be acknowledged in the convention souvenir program booklet and C.O.A. Bulletin. Please send your contributions to Janet L. Thompson, 2015 Hopkinson House, Philadelphia, Pa. 19106. Contributions should be sent by May 21st so they can be included in the auction catalog. Please include proper data for each specimen shell.

Also, we would appreciate any shell related items such as books, art objects, boxes, etc. that could serve as door prizes during the convention. These contributions should be sent to Mr. Thomas R. Thompson, 4024 Maywood Street, Philadelphia, Pa. 19124. Door prizes should be sent no later than May 21st for acknowledgment in the souvenir program booklet.

No convention would be complete without our Dealer's Bourse. It will be located in the Franklin Room on the ground floor, directly behind the meeting rooms. It will be open specified hours on Monday, Tuesday and Wednesday. The cost per table is \$30.00 total charge for three days. Dealers MUST pay registration fee in order to qualify for Bourse. Send in your registration and table fees early to secure a space.

Our Speaker Registration Chairman is Frank Roach, 1028 Belvoir Rd., Norristown, Pa. 19401. Frank would like to hear from you if you have a special talk/slide show you would like to present. Contact him now and see if he has any openings available.

We are looking forward to our first C.O.A. Convention in Philadelphia. Our club members are ready to greet you and help make your stay here a memorable one! To all you shell enthusiasts and your families, come to Philadelphia, join us for fun and excitement at your annual C.O.A. Convention.

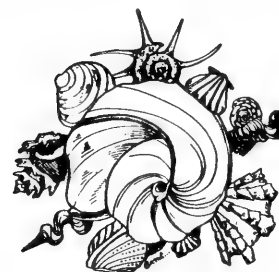
Further inquiries and request for additional forms may be made to Janet L. Thompson, 2015 Hopkinson House, Philadelphia, Pa. 19106.

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- (2) Thursday, June 27, Delaware Museum of Natural  
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Note: The registration fee is required of everyone wishing to attend the reception, program meeting sessions and field trips. No registration fee is required of anyone wishing to attend only the dealers' bourses, shell auction or banquet.

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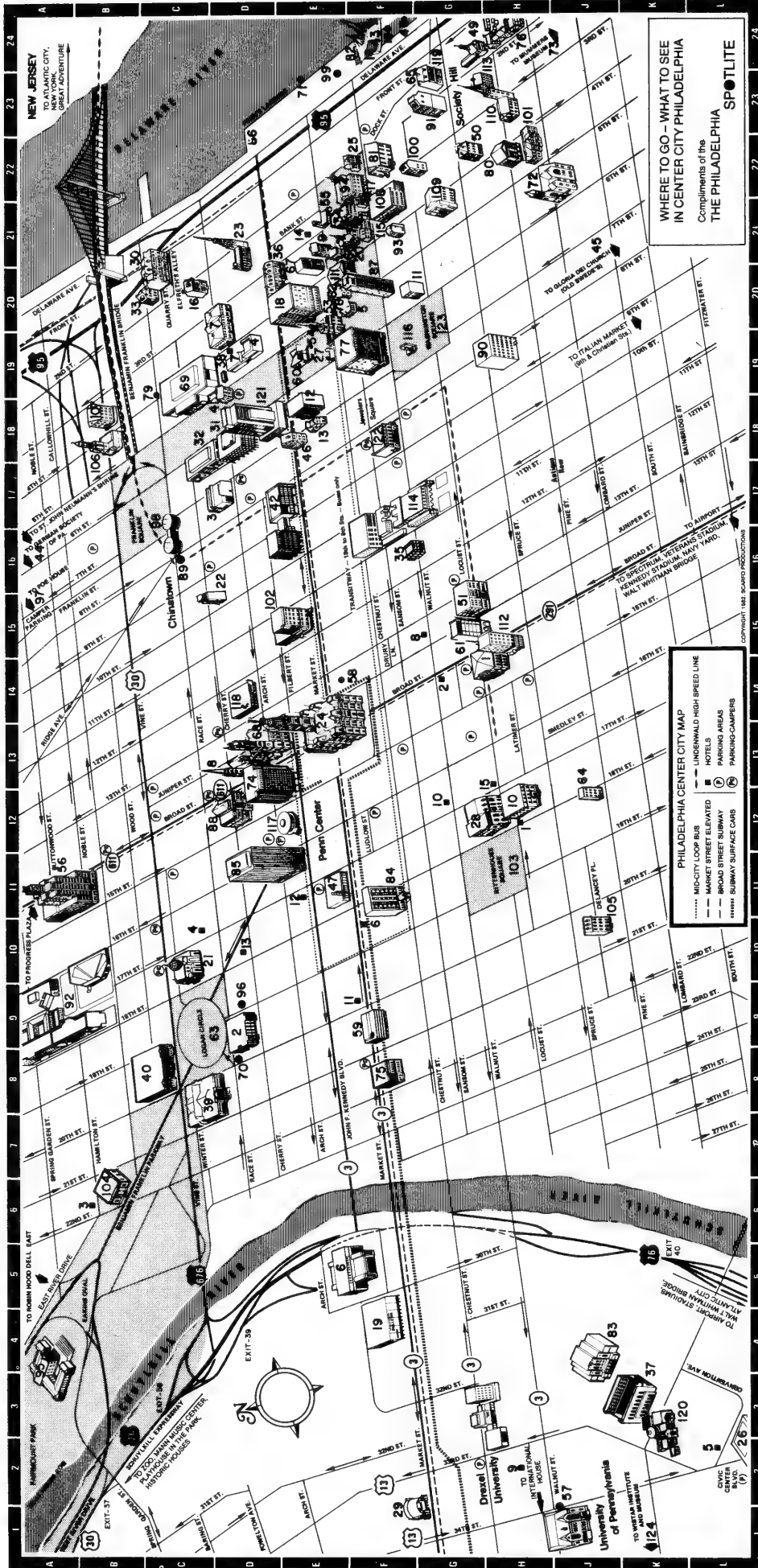
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# CONCHOLOGISTS OF AMERICA BULLETIN

VOL. 13, NO. 2

JUNE, 1985





In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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**COVER PLATE:** We are pleased to present another of the excellent works of artist, Patty McGeeney. This one, a reduction of an oil painting in the Marty Beals' collection is, of course, of *Cypraea guttata*.

#### ERRATUM

We deeply regret an incorrect author citation for *Latiaxis pisori* D'Attilio & Emerson, 1980 in our article on "Philippine *Latiaxis*", Vol. 13:1, 5, 1985, figs. 9 & 10.

## IRS NOT CHARITABLE TO SOME CONCHOLOGISTS

by R. TUCKER ABBOTT

If you're in the sunset of your life and have saved and invested wisely, perhaps you're ready to travel the world to observe, if not collect, a few shells or spend some of your well-earned money buying books to read about your favorite pastime—conchology.

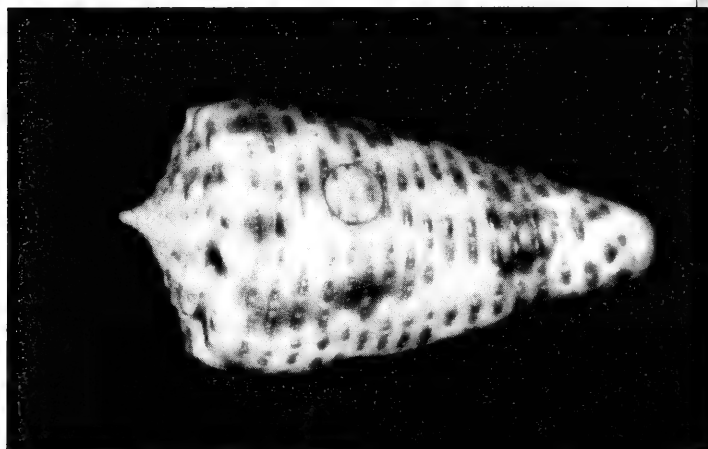
One way to reduce some nasty taxes, and a great way to help the science of malacology, is to donate part or the whole of your beautiful shell collection to a non-profit college or public museum—especially since keeping it in ship-shape condition can get to be a chore. Perhaps the resthome has no room and your children might not have the slightest interest in shells with data.

But wait! They've changed a few rules. The 1984 tax act upped the ante for claiming a charitable deduction for a donation of property with a claimed value of more than \$5,000. So you think your collection is worth ten times that? Tough! For 1985 and later years, a "qualified appraisal" is necessary for any single donation of property, such as stamps, coins, shells, books, paintings, land and buildings.

The appraisal must be made during the 60 days prior to the actual date of the donation, and must be one or more persons qualified to appraise the property, with a fee not dependent on the eventual deduction. A person connected with the museum getting the shell collection cannot do the appraisal. However, many organizations, eager for your contribution, may wish to foot the bill for the appraisal; if they don't, you can deduct the cost.

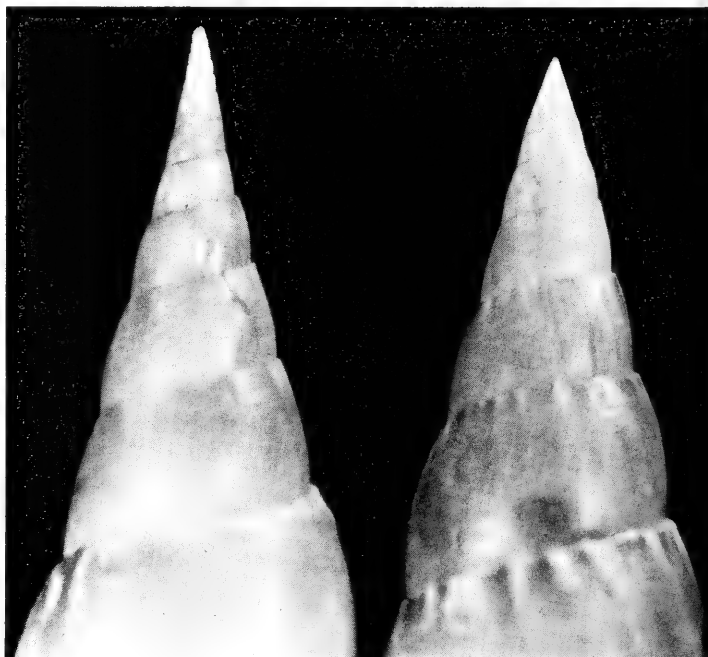
Remember, some museums will accept data-less shells if they are to be used in exhibits or educational classes, but most want specimens with good geographical information and the date they were collected.

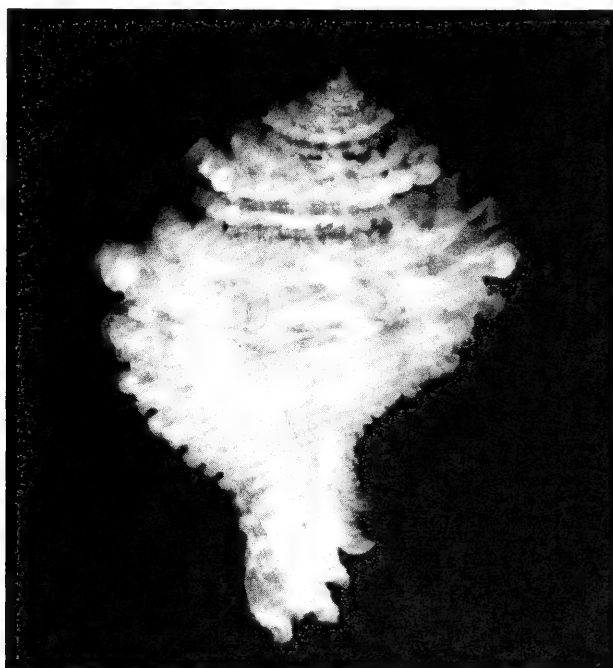
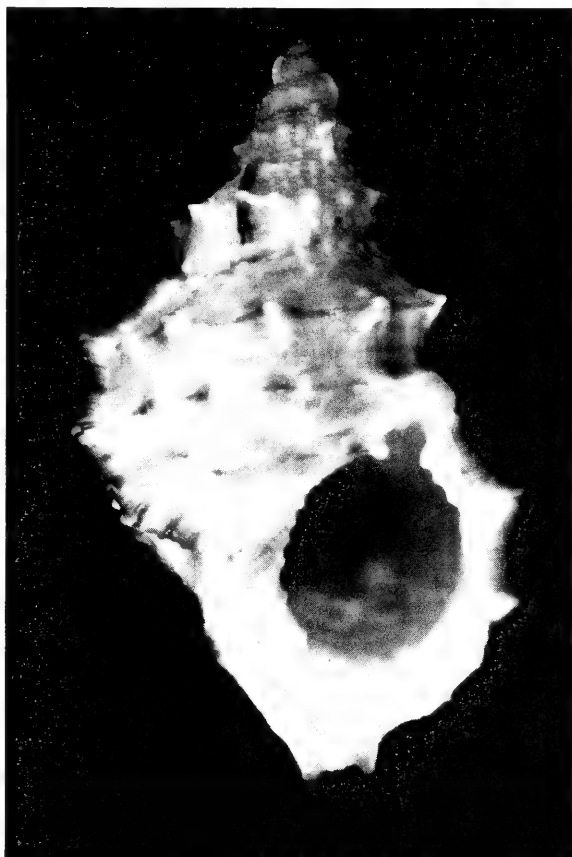
Unless a qualified appraisal occurs, Uncle Sam will not allow you a tax deduction. Not all dealers would qualify as appraisers. I found it necessary to obtain two legitimate licenses for myself to be an appraiser of shell collections. In my twenty years of appraising, I have analyzed collections ranging in value from \$100 to \$100,000. Ask if the dealer has an appraisal license. There is more to it than knowing the value of a few rare cowries and cones, and their price tags are not evidence of current values.



#### CRAFTY SHELLCRAFT

This is an example of the sort of "doctoring" that is occasionally done to shells so *caveat emptor*! Actually, the plug, inserted so artfully into this *Conus proximus* Sowerby (AbS 82-272) from W. Sorsogon, Philippines that even the design matches, is far more apparent in the enlargement than in the 27mm long shell itself! Below (fig. 2) are 2 "repaired" spires of *Mitra helli*. The one on the left is from another species; the one on the right is totally artificial!





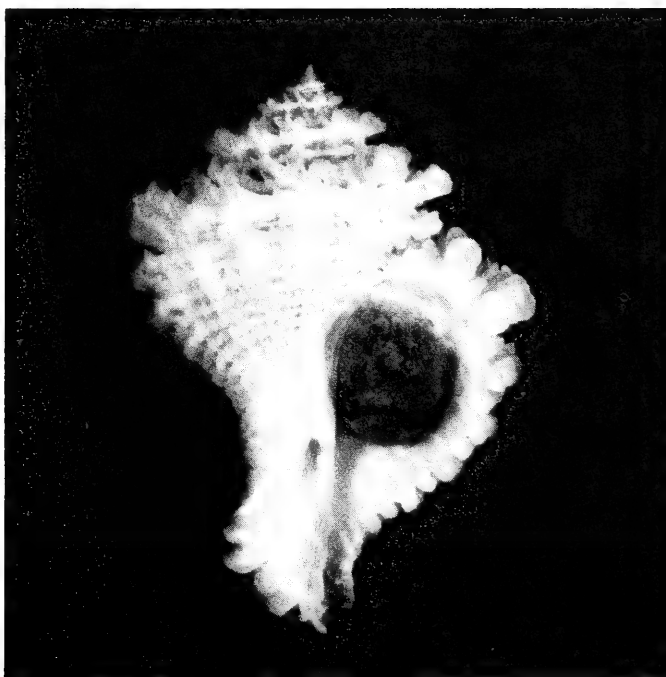
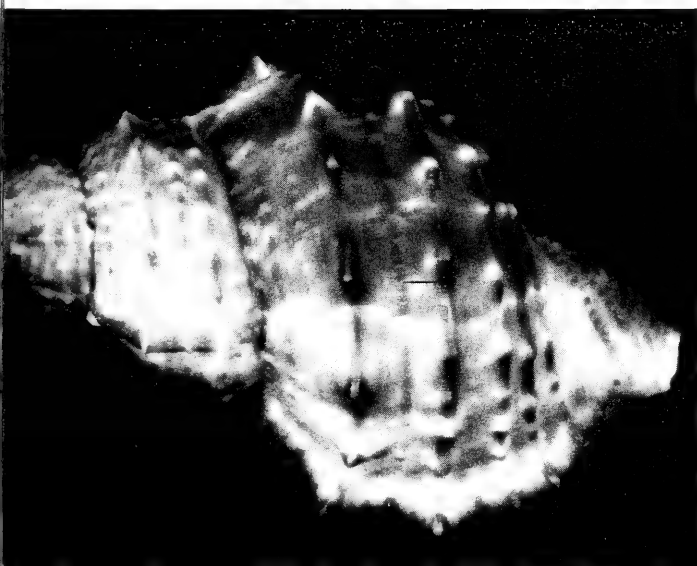
### SHELLS FOR THE AMATEUR

by R. FOSTER & C. GLASS

Figs. 1 & 2 (above & below). 2 specimens of the rare *Bursa awatii* Ray, 1949 (synonym *B. rehderi* Beu) a relatively thin shelled, deep water species of "frog shell". Both shells were taken in tangle nets off Balicasag Island south of Panglao, Bohol. The dorsal view is of AbS 85-084, 67mm long; the aperture view is of another 67mm long shell in the Abbey Specimen Shells' stock.



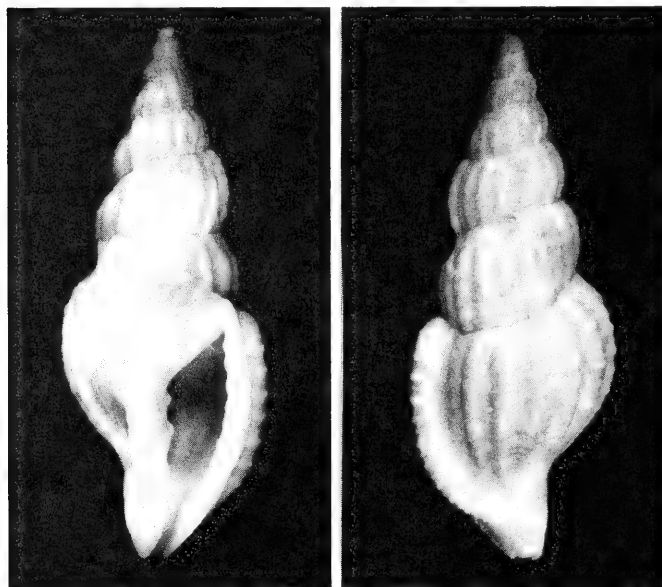
Figs. 3-5 (right). Three views of a superb specimen of *Latiaxis teremachii* Kuroda, 1959 also from tangle nets in deep water off Balicasag Island. The species is similar to *L. winckworthi* Fulton, 1930. The shell (AbS 85-174) is 42mm long.





### MYSTERY SHELL

Does anyone have any ideas on the identity of this 38mm long, cream colored shell from deep water off Bohol, Philippines? The shell (AbS 85-167) at a glance looks like a species of *Colubraria* but it has plications on the columella which would exclude it from that group. Possibly it is an unusual species of *Cancellaria*.



### MEMBER'S CORNER

Mr. Christian Guilloux (273 bd. de Glanum, 13300 Salon de Provence, France) is interested in correspondents in the U.S. with interest in exchanging shells. He can offer Australian, South African and Polynesian cowries, some "nigers" and rostrates from New Caledonia and some rarer species of *Conus*.

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Winner: Sue Stephens

Title of Display: **Endemic Australian Muricidae**

This display, consisting of 6 cases (13 ft.) of almost all known, endemic *Murex* (lacking only 2 or 3), showing both growth and color forms, two extinct fossil forms and included the rare *tatei* and *wilsoni*. The exhibit was sub-titled, "1984—Year of the Big Ban."

In addition to the C.O.A. Grand Trophy, this exhibit has won this year 6 blues (at the S.W.F.C. show, Sarasota, Naples, St. Petersburg, Sanibel and Marco) plus "Most Beautiful" at St. Pete, "Outstanding Exhibit Award" at Sarasota and S.W.F.C. Shows and "Best Scientific Exhibit" trophy at Naples.



Fig. 1. Ted Kalafut, between dives, off Stella Maris, Long Island, Bahamas.

Greater Miami Shell Show, Miami, Florida. January 24-27, 1985

Winner: Ted Kalafut

Title of display: **Florida and Caribbean Shells/Collected Any Manner**

This display, consisting of 14 cases (30 ft.) represented the Caribbean Province spectrum, showing common as well as rare specimens. The emphasis was mostly on color. Close-up photos of the smaller specimens, enlarged to as much as 11 by 16", were positioned on 16 by 24" mat-board placards behind each case.

Ted began collecting shells as an offshoot of a basic fascination with the ocean. Finding his first "Queen Helmet" while spearfishing in the Florida Keys triggered what will undoubtedly be a lifetime fascination with "the shell". He collects Caribbean shells exclusively, and his hobby has taken him to such exotic places as Bonaire, numerous Bahama out-islands, and Antigua. The color and beauty of his extensive collection has sparked a logical sideline; creative close-up photography, which he successfully incorporates into his exhibits.

### CONDITION CRITICAL BUT STABLE

OFFER IN A DEALER'S SHELL LIST:

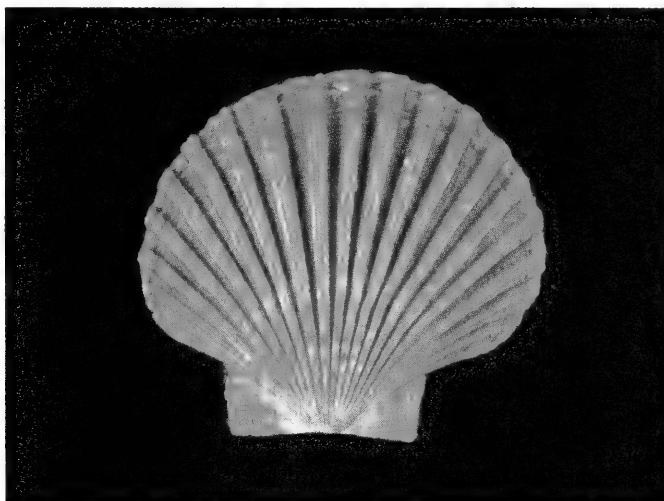
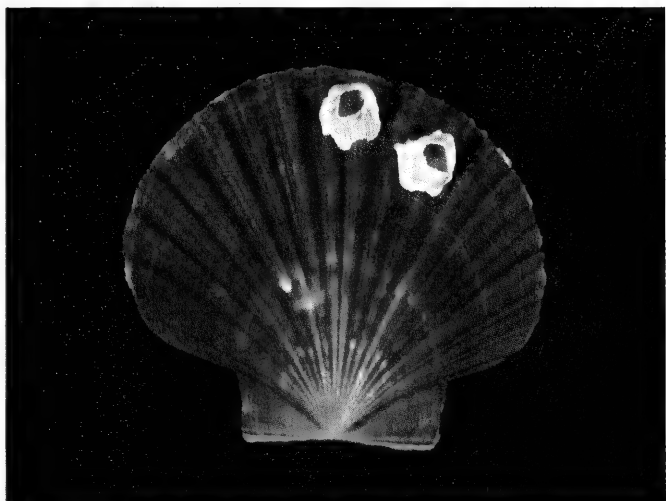
*Conus cervus*: 4" @ \$600.00; half dead: \$200.00

### NORTHWEST INDIANA UNDER "SPELL OF THE SHELL"

Once again, the Crown Point Shell Collectors Study Group is putting on a show. The dates are October 4, 5 and 6th, 1985.

The event will take place at the Southlake Mall, at I-65 and U.S. Route 30, in Merrillville, Indiana, and will be hosted by the Southlake Merchants' Association.

Our judges will be Dr. R. Tucker Abbott, and Walter Sage, III, scientific divisions, and Cecilia Abbott, who will judge artwork and shellcraft.



Figs. 1 & 2. *Pecten diegensis*: the flat, purple-red, left hand valve and the yellow-orange (fig. 2, right), convex, right hand valve (AbS 82-1624, 101mm wide) of a shell taken in 65-70 ft., partially buried in the fine silt between the ridges of Canby Reef out of Santa Barbara Harbor (leg. C. Glass, 1982).

## CALIFORNIA SEASHELLS

### PART IX: PECTEN, HINNITES, CHAMA & PODODESMUS

by C. GLASS & R. FOSTER

#### *Pecten diegensis* Dall, 1898

One of the most beautiful of California bivalves or pelecypods is the "San Diego scallop", a fairly uncommon and elusive species. Its range is from Bodega Bay in northern California to Cabo San Lucas at the southern tip of Baja California. Typical size is about 4 inches wide, side to side,  $3\frac{1}{2}$  inches across from hinge. The maximum size is given as 140mm. One of the most striking aspects of the shell is that the right valve is convex and yellow to orangish whereas the left valve is almost flat and a rich reddish purple often with paler markings towards the confluence of the rather flattened hinge. There are 22 or 23 rather flattened, somewhat ridged ribs.

Most of the shells of this species which we have observed were from the silt filled depressions along Canby Reef out of the Santa Barbara Harbor in 60 to 90 ft. Previous to seeing them in habitat we had naively assumed that the convex valve was the "top", the flat valve resting on the flat bottom. Actually, the reverse is true and the critters are to be found in the soft silt generally buried up to the flat top of their left valve which is about level with the silt. They are, as we said, elusive for when all their little eyes spot a potential predator, such as a SCUBA diving shell collector, approach they quickly clamp down their left valve, itself covered with silt, and they are almost impossible to detect except by looking for the slight hint of their outline in the soft silt where the valves had just closed. When we are lucky enough to find one or two, we have to be careful not to drop them in a game bag with other shells as, in their attempts to escape by forcefully opening and closing their valves they are apt to chip their lip. *Pecten diegensis* is strikingly similar to *P. sericeus* from Ecuador.

#### *Hinnites giganteus* Gray, 1825

The "California rock scallop", is another member of the Pectinidae, is avidly sought by sport divers as the muscle is delicious either fresh and raw or pan fried. There is a collecting restriction of no more than 10 shells per day. For years this tasty species was known as *H. multirugosus* (Gale, 1928). Its range is from British Columbia to central Baja California. The early stage is free swimming and very much like a *Chlamys* species, yellowish in color. When it is about three-quarters of an inch to an inch in diameter, it attaches itself to the substrate where it develops a heavy, coarse, somewhat spiny sculpture of imbricated ribs. The shells are purplish brown outside, white within with a purple stain. They may get as large as 8 or less commonly 10 inches!

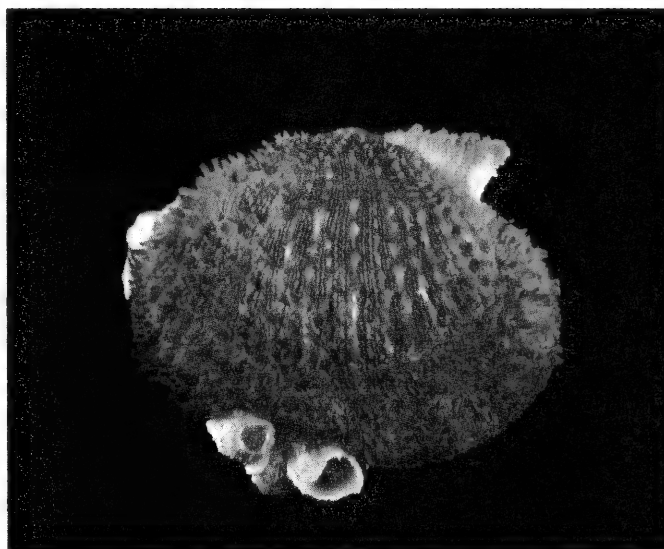


Fig. 3. *Hinnites gigantea*, the California rock-scallop, a medium specimen, 82-96mm in diameter, collected by C. Glass in 1982 (AbS 82-280) in 35 ft. on rock reef off the Santa Barbara Channel Islands.



Fig. 4. *Chama arcana* cluster collected by Glass & Conrad in 30 ft. on rocky reef off East Point of Santa Rosa Island (AbS 84-1462). These are unusually large and fine specimens, the largest 62-66.5mm in diameter.



We have found them in most rocky areas, shallow or deep, off southern California, and though they have the same growths and encrustations on them as the substrate, they are fairly easy to spot when the valves are not tightly shut by the orange to brownish mantle . . . so when divers see a rock with a "smile" on it, they pry it loose with their knife or abalone iron.

#### *Chama arcana* Bernard, 1976

The "clear jewel box" is rarely as attractive as its Atlantic cousin, *C. macerophylla*, but a good specimen can be subtly beautiful indeed, as the illustration shows. This species has long been accepted as *C. pellucida* which name is now applied to a similar Chilean species. The shells are typically about 1½ to 3 inches in size and quite tightly attached to the substrate or pilings. The frondlike sculpturing may be whitish to pink or orange and rather translucent. They are, like the "rock scallop", so well camouflaged that they are hard to see; once seen they are usually hard to remove. We have found that the easiest way to spot them is to look for *Murex* (*Ceratostoma*) *nuttalli* and often you will find the muricid sitting on top of the chama, patiently waiting for the valves to open so that it can stick its tooth or horn in the aperture and thus prevent the bivalve from protecting itself by closing.



Fig. 5. *Pododesmus cepio*, the "abalone jingle", the 72mm diameter valves of a specimen showing the strange hole in the lower valve through which the animal attaches itself to the rock or abalone shell. The jingle grows to fit perfectly the shape of the terrain!

#### *Pododesmus cepio* (Gray, 1850)

This oddity, the "abalone jingle" shell, is the most difficult of the four to detect when it clamps down tight on the rock or abalone on which it is growing, it blends in so nearly perfectly with its surroundings. Jingle shells have a rounded opening in their lower, thin and translucent valve, through which they attach themselves. The color is an uninteresting grayish white and sculpturing consists of just low ribs or ridges. It is about 1½ to 2½ inches in diameter. Its main interesting aspect is just the strange means of attachment . . . It's not even edible!

#### REFERENCES:

- Abbott, R. Tucker, 1974. American Seashells, 2nd Edition, Van Nostrand Reinhold.  
 — & S. Peter Dance, 1982. Campendium of Seashells, Dutton.  
 McLean, James H., 1969. Marine Shells of Southern California, Los Angeles County Museum of Natural History, Science Series 24, Zoology No. 11.

## HELPFUL HINTS FOR COLLECTORS

by Minicyp

### Names

Shells, like people, have names consisting of two separate names. With shells the first word of the name is the genus name. The genus name for a shell corresponds to the surname of an individual. It is held in common with all other shells of the same genus. The second word of a shell's name is called the trivial name or the species epithet. The species epithet for a shell corresponds to the given name of an individual. The species epithet in combination with the genus name is a unique name for a given species.

The system of using two words or names, in combination, to identify a species is an inheritance from the great biologist Carolus Linnaeus (Karl von Linné). The binomial system, as it is called, is universally used throughout zoology. A species is fully identified by its binomial name.

An individual, hopefully a taxonomist (a member of the world's oldest profession—See Genesis Chap. 2:19,20) or equally qualified person, assigns the name to a species. When a taxonomist or other qualified person (or sometimes an unqualified person) determine that a specimen which they have is a new species they then assign a binomial name to that species. For that name to be recognized as a valid name there are certain rules that must be followed. These rules are published in the International Code of Zoological Nomenclature (ICZN). The Code is the work of the International Congress of Zoology and administered by The International Commission on Zoological Nomenclature. The authority of the ICZN stems not from the force of law but from the world wide recognition that such authority must exist to avoid nomenclatural chaos.

It is important to recognize that the existence of a valid name does not mean that the species to which the name is assigned is valid. The rules of the ICZN only relate to the process of naming a species and not to the process of identifying and establishing a new species. As is all too obvious to even the neophyte shell collector there are a lot of valid names associated with dubious species.

While the system of nomenclature is supposedly binomial, that is a species is fully identified by a binomial name, in practice the name can become either trinomial or quadrinomial. Conchologists, malacologists and others frequently divide a genus and create subgenus and erect subspecies to further divide species. Both subgeneric taxon and subspecific taxon are recognized by the ICZN. However, no taxon subordinate to subspecies such as form, variety, etc. is recognized by the ICZN.

Most of the ICZN rules are of interest to most shell collectors. The rules cover nearly 200 pages. However, there are a number of rules which should be recognized and applied. For example the name of a species should always be distinguished from the rest of the text in a label, article, price list, etc. The usual and preferred way is to put the species name in italics. However, the use of bold face type, underlining or some other technique which clearly distinguishes the species name from the rest of the text is acceptable. The author and date associated with the species name should not be italicized or presented in the same manner as the species name.

The different punctuation marks including parenthesis and brackets used in association with the author's name and date all have a particular meaning under the Code. The meaning of the various punctuation marks should be recognized and they should be used correctly. There are various abbreviations and jargon used in association with species names to clarify the status of the name. These are useful to know.

As pointed out above most of the rules in the ICZN are of little use to the average collector. There are rules which are or should be of interest to any collector who is exhibiting, writing about or just collecting shells. The author has attempted to summarize the various rules and corollary material which might be of interest and use to most shell collectors.

(to be continued)



Fig. 1. *Typhina pauperis* Mestayer, 1916. A reproduction of figure 153, page 208, in the Radwin & D'Attilio *Murex Shells of the World*.

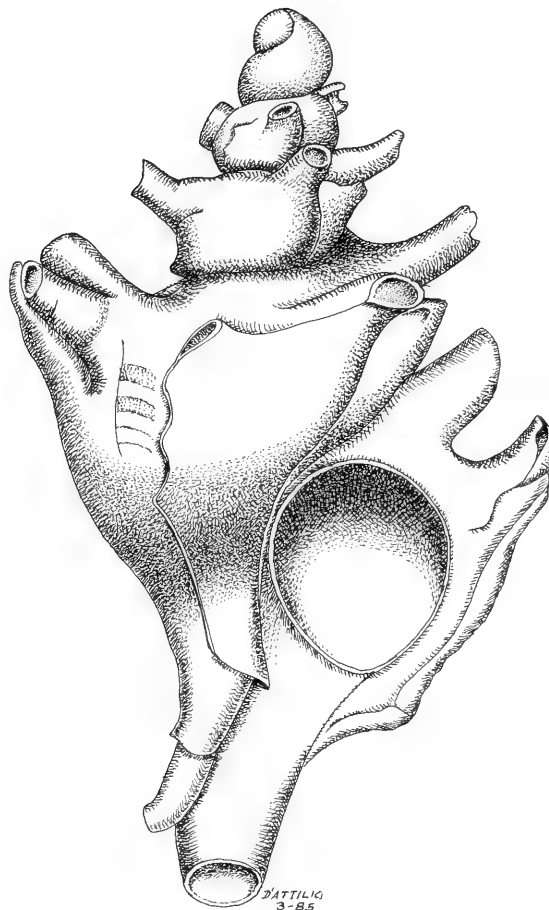


Fig. 2. Drawing of a specimen of *T. pauperis* in the Foster & Glass collection (AbS 85-279, 6mm long).

## ILLUSTRATIONS AND COMMENTS ON *TYPHINA PAUPERIS* MESTAYER, 1916

by ANTHONY D'ATTILIO

Department of Marine Invertebrates, San Diego Natural History Museum, San Diego, CA.

For our illustration of *Typhina pauperis* Mestayer, 1916, in the *Murex* book, Radwin and D'Attilio (1976), I made a wash drawing from the figure in Vella (1961) as no specimen was available to us. Vella's figure Pl. 47, fig 24 also appears to be a drawing and is of the type. It seems to be a mature specimen, 8 mm, and was collected off Poor Knights Island, New Zealand, in 108 meters. This same drawing is re-illustrated here as fig. 1. Another specimen figured here is my drawing and used for comparison purposes as fig. 2. The specimen is in the Glass and Foster collection sent to me on loan for my study of this family. It has only three whorls in comparison to that of the type which has four whorls and is 6 mm in length. The type is 8 mm in length according to Vella.

A comparison of both figures shows the more mature develop-

ment of the shell morphology notable in the larger apertural spine, the wavy lamellae in the varical flange and other small differences indicative of age characters. The protoconch of fig. 2 has two smooth rounded whorls. The collecting locality for the Glass and Foster specimen is the same as the type off Poor Knights Island in 110 meters.

### LITERATURE CITED

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Vella, Paul. 1961. Australasian *Typhinae* (Gastropoda) with notes on the subfamily. *Paleontological Association. London.* pp 362-391, 2pls. and text figures.

## ON THE DIFFERENCES BETWEEN 3 RELATED *HOMALOCANTHA* SPECIES (GASTROPODA : MURICIDAE)

ROLAND HOUART

Landen (Ezemaal) Belgium.

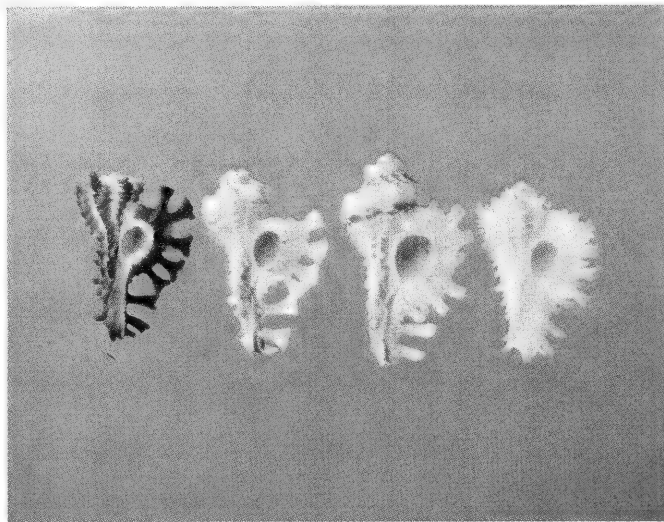
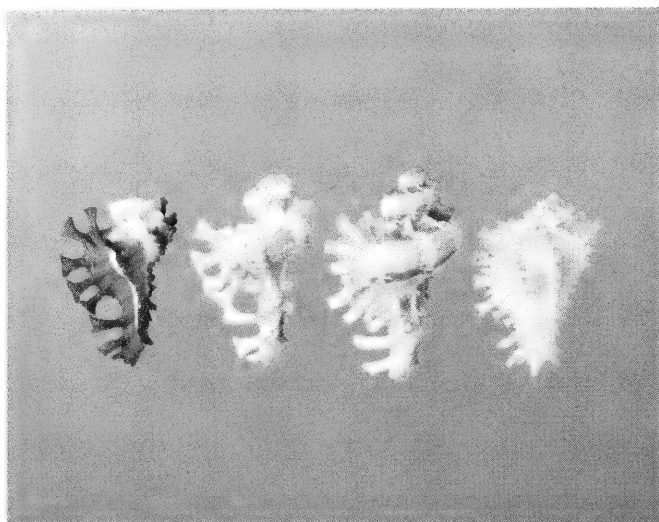
Scientific Collaborator at the Institut des Sciences Naturelles de Belgique.

In recent years some albino forms of the well known *Homalocantha secunda* (Lamarck, 1822) were confused with the much rarer *Homalocantha lamberti* (Poirier, 1883), rarely seen in private collections.

*H. lamberti*, of which all specimens seen by me were labelled as

found in New Caledonia, is also related to *H. scorpio* (Linné, 1758), mostly to the albino form of this last species.

I think it is most necessary to make a serious comparison of these 3 species. In the table I note the most important differences which can be seen in any good specimen.



Figs. 1 & 2 (from left to right). *H. scorpio*, Philippines : 31 mm; *H. scorpio* (albino), Philippines : 34.5 mm; *H. lamberti*, Loyalty Islands, New Caledonia : 39 mm; *H. secunda* (albino), Trivandrum, India : 34 mm, all in the author's collection.

	<i>H. secunda</i>	<i>H. scorpio</i>	<i>H. lamberti</i>
Protoconch	1½ rounded, smooth whorls.	Unknown	Unknown
Whorls	Not decollate	Decollate	Decollate
Varices of last whorl.	5 to 7 (very variable)	5 to 7 5 is most common, 7 is exceptional.	7
Outer apertural lip	Ornamented with 4 major flat spines and numerous intermediate flat spinelets, slightly expanded at the tip.	Ornamented with 4 to 5 (usually 5) flat spines, strongly and widely expanded at the tip. No intermediate spinelets.	Ornamented with 5 major flat spines, slightly expanded at the tip, but none or rarely 1 intermediate spinelet.
Aperture	Usually smaller than <i>H. lamberti</i> , rounded.	Smaller than <i>H. lamberti</i> , rounded.	Large and rounded
Siphonal canal	Usually ornamented with 4 irregular flat spines and fine spinelets.	Ornamented with 3 flat spines of which the posterior one is the longest and the anterior the shortest. No intermediate spinelets.	Ornamented with 2 flat, long spines, of which the posterior one the longest. No intermediate spinelets.
Color	Usually light brown with darker varices, but completely dark brown or white specimens known.	Entirely brownish or white (rarer) and very rarely whitish with darker varices and spines.	Whitish with shoulders brown and a brown band on the periphery of the whorls and on the siphonal canal.
Size	30 to 41 mm	30 to 60 mm	Type : 38,5 mm R.H. coll. : 39 mm
Geographical distribution	Northwest Cape to Broome, West Australia, to Sri Lanka and North-East India. Also mentioned in Papua New Guinea by A. Hinton (1979:28) but this needs confirmation. (1)	Philippine Islands, Molucas to Papua New Guinea (2)	All specimens known in old collections, including the type, were collected in New Caledonia (3)

- (1) Radwin and D'Attilio (1976 : 55) noted that *H. secunda* is found from Northwestern Australia to Indonesia and New Caledonia, but their specimen illustrated on pl. 8, fig. 5 is clearly *H. lamberti*, as noted by D'Attilio (1983 : 48). R.H. Fair (1976 : pl. 18, fig. 247) illustrates the type and D'Attilio (1983 : 49) the protoconch.
- (2) Radwin and D'Attilio (1976 : 54) include *Murex digitatus* Sowerby, 1841, a valid and different Red Sea species, in their synonymy. Their geographical distribution including the Red Sea is based on this error.
- (3) R.H. Fair (1976 : 53) gives also Borneo and possibly Indo-Pacific as distribution; this is very questionable as I do not know of any other specimen, except New Caledonia. She illustrates the type deposited in Paris (Pl. 18, figs. 255-255a).

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- FAIR, R.H., 1976. The *Murex* Book. An Illustrated Catalogue of the Recent Muricidae (Muricinae, Muricopsinae, Ocenebrinae), 138 pp., 23 pls. Honolulu.
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- RADWIN, G.E. and A. D'ATTILIO, 1976. *Murex* Shells of the World. An Illustrated Guide to the Muricidae. 284 pp., 32 pls. Stanford, California.

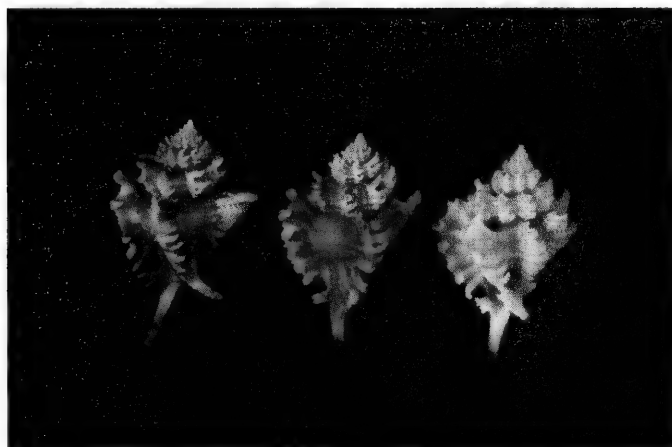


Fig. 1. Three specimens of *Murexiella cirrosa* (Hinds): left: a 22.5mm long, brown & white shell from Mactan, P.I. (AbS 84-270); center: a 20.5mm, brown shell from Samal Is., Davao, P.I. (AbS 80-77); right: a 21mm, whitish shell from Sogod, Cebu, P.I. (AbS 81-170). Fig. 2 (right). 3 specimens of *Murexiella peregrina* Olivera: left: a 14mm, pinkish shell from Panglao, Bohol, P.I. (AbS 84-414); center: a 14.5mm, tannish shell (AbS 83-870) and (right) a 13.5mm, yellowish shell, both from Mactan, Cebu, P.I. Photos by Foster & Glass.

## THOSE AMAZING MACTAN MURICIDS (AND SOME OF THEIR FRIENDS)

by EMILY H. VOKES

Dept of Geology, Tulane University, New Orleans, LA

As any murex-lover who has not been languishing in a Tibetan monastery for the last ten years MUST know, the deepwater tangle nets in the Philippine Islands have been bringing up an incredible variety of apparently hitherto unknown species. The first question that immediately comes to mind is: "Where have you been all my life?" and the second is: "Can *all* these species actually be new?"

Travelers have been bringing back Indo-Pacific muricids ever since the time of Magellan, and while it is true that these new ones are coming up from relatively deep water, one is hard-pressed to believe that not one of this amazing array of forms has ever been seen by scientific eyes before. With this in mind, I searched the collections of the British Museum (Natural History) last summer, looking at type specimens of long since forgotten, or never recognized, names proposed by Sowerby, Reeve, and others, and not entirely to my surprise I thought I could recognize some very strong resemblances to the Mactan crowd.

The problem is that all of the older species are based upon rather worn specimens; none have protoconchs, and often the ornamentation is badly battered. So, I am not going to state categorically that they are indeed the same species but I do wish to call attention to the existence of older names that may be the same as some of the more recently described species.

The generic name applied to the majority of the muricids in question is either *Favartia* or *Murexiella*, and it is this group I shall address in this work. The other members of the family are less complicated. The first problem is *which* generic name is applicable to *which* species. The type species of *Murexiella* (*Murex hidalgoi* Crosse) and of *Favartia* (*Murex breviculus* Sowerby) are completely distinct — there is no difficulty in segregating them into two different genera. But at the margins the distinctions blur and it has been suggested by Ponder (1972, p. 231) that *Murexiella* should be no more than a subgenus of *Favartia*. The Law of Priority strikes again! If it were possible to have *Favartia* be a subgenus of *Murexiella* I would be the first to jump on the bandwagon. Geologically, this is the sequence of events — *Murexiella* has been around ever since the Eocene (some 50 million years) and *Favartia* is descended from it, only appearing in the Miocene (a mere 20 million years ago).

In addition to *Favartia* there are two other groups that may also lay claim to *Murexiella* as an ancestor, *Homalocantha* and *Subpterynotus*. *Homalocantha* is now sufficiently distinct, especially with its purpuroid operculum, to be counted as a separate genus. But *Subpterynotus* is still so near the ancestral form that I prefer to

see it as a subgenus of *Murexiella*. Ponder placed both *Murexiella* and *Subpterynotus* as parallel subgenera under *Favartia* and this bothers me. I prefer to maintain the status quo and treat *Favartia* as separate but equal (as we say here in the South) to *Murexiella*, and to consider *Subpterynotus* as a subgenus under *Murexiella*.

But the nice thing about taxonomy is that as long as you play the game according to the rules (such as Priority) no one can call you wrong. Every one is entitled to his/her own opinion and what is put forth herein is not gospel but just one (wo)man's opinion.

So how does Emily Vokes distinguish between *Favartia* and *Murexiella*? The answer is — "sometimes with great difficulty." As mentioned above, usually there is no problem. *Murexiella* has digitate varices with webbing between them and *Favartia* has no varices as such but just raised axial ridges, fimbriated by erect lamellae where the spinal cords cross. *Murexiella* has a long siphonal canal with spines on it, *Favartia* has a short, very recurved siphonal canal that is tube-like and has no spines on it. Sounds simple enough. Then, you get *Murexiella peregrina* that has a siphonal canal to make any *Favartia* envious, or *Favartia cyclostoma* that has fairly good varices. In the end one can only say, well, to me that looks like it ought to be a *Favartia* or this ought to be a *Murexiella*. Not very scientific is it? But this is what happens when you try to split up a continuous spectrum into discrete entities. The rainbow is a good comparison to keep in mind. No one has any trouble with red, yellow or blue, or even too much trouble with orange, green and purple — but it is the turquoises, the chartruses, "reds" like garnet, cranberry, or coral, that keeps paint companies busy coming up with new shades every year.

Let us now have a quick run-down of the various species that are being encountered in Philippine waters and other spots around the Indo-Pacific. *Murexiella cirrosa* (Hinds) (figs. 1, 2) is a name that has been used by many authors and not always for the same species. (I am among the guilty, having figured the specimen of *M. pelepili* shown in fig. 3, as *M. cirrosa* in 1978, pl. 7, fig. 4). The shell illustrated in Radwin and D'Attilio (1976, pl. 25, fig. 13) is, however, an excellent example. This is among the smaller species of *Murexiella*, the average height being about 15 mm.

The second relatively common form (*i.e.*, long known) is *Murexiella balteata* (Sowerby) (fig. 7). This is one of the "larger" species, with a maximum height of about 22 mm. It may be distinguished from all of the other forms by the scabrous nature of the intervarical areas. The spiral cords are well-developed between the varices and the entire intervarical area is marked by a series of scabrous threads



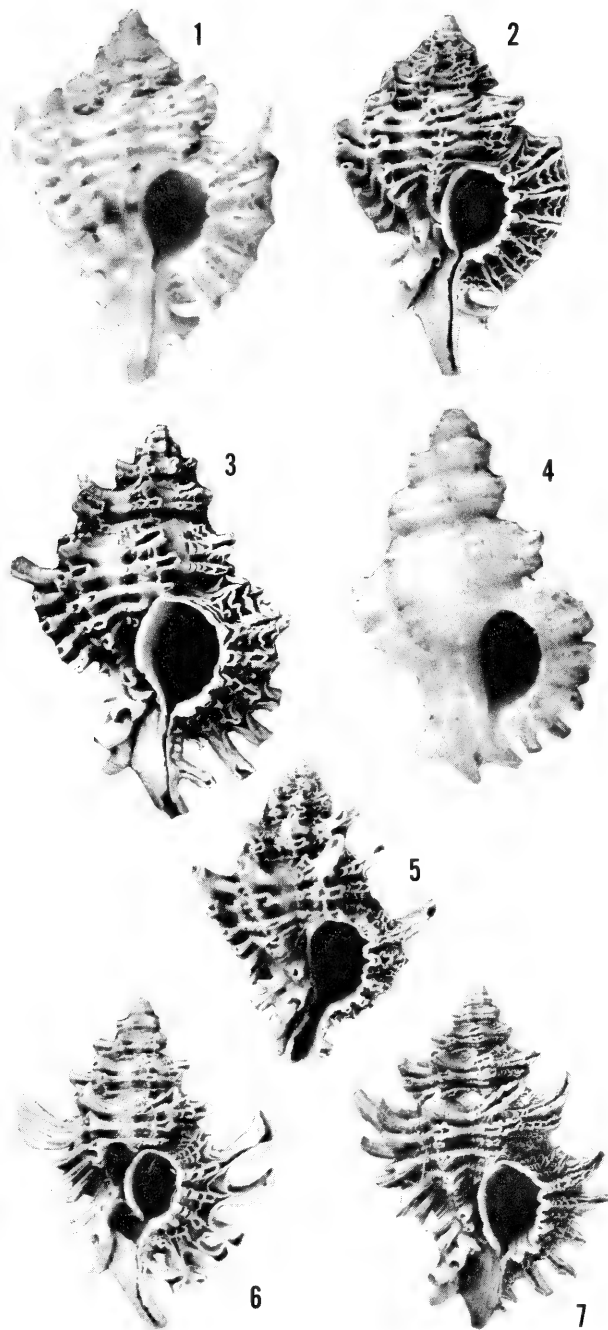


Plate I. Explanation of figures:

1. *Murexiella cirrosa* (Hinds). Type BMNH 1844.6.7.90; Indonesia; height 13.5 mm.
2. *Murexiella cirrosa* (Hinds). P.I.; height 16.5 mm.
3. *Murexiella pelepili* (D'Attilio & Bertsch). Japan; height 26.2 mm.
4. *Murexiella munda* (Reeve). Type BMNH 1972.018; P.I.; height 10.5 mm.
5. *Murexiella judithae* (D'Attilio & Bertsch). P.I.; height 13.8 mm.
6. *Murexiella mactanensis* Emerson & D'Attilio. P.I.; height 14.7 mm.
7. *Murexiella balteata* (Sowerby). P.I.; height 22.0 mm.

of varying strength. All of the other similar forms are smooth between the varices.

A third unmistakable species is the more recently described *M. mactanensis* Emerson and D'Attilio (fig. 6). It has extremely long, flattened spines and attains a height of about 22 mm.

Now comes the first hint of trouble. There are three names involved: *M. pelepili* (fig. 3) and *M. judithae* (fig. 5), both of D'Attilio and Bertsch (as *Favartia*) and *Murex mundus* Reeve. Radwin and D'Attilio (1976, p. 151, pl. 24, fig. 14) used that latter name for a Japanese species that I cannot identify from their work, except that I am sure it is not the same as Reeve's shell. The type specimen in the BM(NH) is shown here in fig. 4, and it can be seen that it is almost certainly the same as *M. pelepili*. Reeve described it from Cebu, Philippine Islands, and the shell has five varices, as *M. pelepili* is stated to have (more below). The beachworn shell is white but this is not unexpected.

Described at the same time as *M. pelepili* was *M. judithae*. Both are among the larger of the *Murexiella* species, averaging 25 to 30 mm in height. Both are smooth between the varices, which were stated to number five in *M. pelepili* and seven in *M. judithae*. The color of *pelepili* was stated to be tan and for *judithae* pink. But these are the two characters that one should *never* use to separate two species, especially in the Muricopsinae, where the number of varices is *always* variable, almost as much as is color. In a count of the number of varices on species of *Murexiella* of which I have large numbers, I found in *M. macgintyi* (Smith), which occurs from the Pliocene to Recent in the western Atlantic, the number varies from five to nine with the majority having seven (5-20 specimens, 6-53 specimens, 7-69 specimens, 8-21 specimens, 9-2 specimens; a lovely bell-shaped curve for the statistically minded). Another species found only in the Plio-Pleistocene of the same area, *M. shilohensis* (Heilprin), presents the same picture (5-1 specimen, 6-20 specimens, 7-24 specimens, 8-5 specimens).

In *M. pelepili* the varical spines all tend to be about the same length but in *M. judithae* only that at the shoulder is long. However, this is subject to many factors. Therefore, I have strong doubts that these three names apply to more than one species.

Among the larger species of *Murexiella* there is only one other form and it is unmistakable, for *M. martini* Shikama (fig. 11) has only three varices on each whorl. The average height is about 28 mm, but up to one-third of this is in the very long siphonal canal, and the body without this canal is about 20 mm in height.

Among the smaller species there is one other that should not cause anyone any problems but apparently does, and this is *M. peregrina* Olivera (figs. 8, 9). This delicate little shell (height about 16 mm, including an incredibly long tail — about 10 mm without it) has just four varices and a protoconch with  $2\frac{1}{2}$  whorls. It has a superficial resemblance to *M. martini*, when one compares figs. 8 and 11, but the intervarical area in *M. martini* is extremely scabrous with heavy spiral cords; *M. peregrina* is smooth, with a linen-like texture.

But if one orders a specimen of "*M. peregrina*" from most shell dealers (except Glass and Foster!) one is playing Philippine roulette — there are at least two other species, and maybe more, being sold as "*peregrina*." One of these is shown in fig. 10 and, as may be seen, other than the small size and generic similarity it should not be confused with *M. peregrina*, as the overall shape is different and the protoconch is of only  $1\frac{1}{2}$  whorls. I am not aware of any name for this species, which seems to be moderately rare.

The second, shown in fig. 12, is much more common and, again, should not be confused with *M. peregrina* as it has  $3\frac{1}{2}$  whorl protoconch and the spiral sculpture is extremely heavy in the early stages, although it does become smooth as an adult. An immature shell has a strong resemblance to *Favartia natalensis* (Smith) (see fig. 24) but as the size increases, first the number of varices decreases to four (from five), and the heavy spiral cords disappear; then, in the last adult whorl, when the shell is about 15 mm in height it further reduces the number to three, giving the shell a distorted look.

It has been suggested that this enigmatic species is the same as the shell called *F. garrettii* (Pease) (fig. 23), which is endemic to Hawaii but is closely related to *F. natalensis*. I say "called" *F. garrettii* because we have no idea what *F. garrettii* really is. The type specimen was lost in the San Francisco earthquake (it was at the California Academy of Sciences) and it was never figured by

anyone. On the basis of the description given by Pease, who was renaming Garrett's pre-occupied *Murex exiguus*, we assume that this is the Hawaiian shell but we are not certain. Hertz and D'Attilio (1979) have given a good discussion of the species, figuring an immature shell. An adult was figured by Kay (1979, fig. 83-G), who noted that the shell attains a height of 10 mm. The Hertz and D'Attilio example is 4 mm and they were misled by the measurement of "5 lines" (which they assumed meant 5 mm) into thinking it was adult. There are 10 lines to the inch, so 1 line is about 2 mm.

The Hawaiian species was also figured by Fair (1976, fig. 299) and her specimen does have a superficial resemblance to the "false-*peregrina*." However, the Hawaiian form is smaller, rarely attaining 10 mm, and has a protoconch of  $1\frac{1}{2}$  whorls.

Thus, there are three species involved: *F. natalensis* (figs. 21, 24), which is larger (15 mm) and has strong spiral cords between the varices in the adult shell; "false-*peregrina*" (fig. 12), which is also large but smooth between the varices; and *F. garrettii* (fig. 23), which is smaller but also smooth between the varices. *Favartia natalensis* and *F. garrettii* have protoconchs of  $1\frac{1}{2}$  whorls and marked brown spiral lines on the inside of the aperture. The "false-*peregrina*" has a  $3\frac{1}{2}$  whorl protoconch and no brown lines. The young of both *F. garrettii* and *F. natalensis* have six or seven varices but the adult has only five or six.

The adult of the Philippine "false-*peregrina*" has only three varices per whorl, and is completely smooth between the varices. All in all, it is an extremely peculiar species, which seems as though it can't decide whether to be a *Favartia* or a *Murexiella*, or maybe even a *Pterynotus*! The generic placement of this species is a puzzle — it is one of those "intermediate" ones discussed earlier. It is my understanding that the form will be described soon by D'Attilio, and I wish him luck. Given the similarity to *F. cyclostoma*, I would probably go with *Favartia* and just ignore the smooth, last whorl with its three winged varices.

While on the subject of "intermediate" forms, this brings us to another species, which so far as I know has not yet turned up in the Philippines, but which belongs in this same general group of small, recently described members of these genera. Named by Emerson and D'Attilio as *Favartia guamensis* (fig. 14), it has several un-*Favartia*-like characteristics, including the broad, spinose siphonal canal. It also has a strange anal notch unlike any closely related form (the same sort appears in *Chicoreus florifer* and its relatives in the western Atlantic). The type lot consists of only four specimens, all from Guam, and all of a red-orange to yellow color. In the collections of the BM(NH) I located the type lot of a species described from Mauritius that I suspected might have some bearing on the Philippine muricids, which was named by Sowerby as *Murex crouchi*. The original illustration is poor and, on the basis of it, I (Vokes, 1971) had tentatively assigned the species to the synonymy of *M. balteata*. There are two specimens in the type lot of *M. crouchi* (see fig. 13), both about 15 mm in height, which is almost twice as large as *F. guamensis*, but they also have one more whorl and so the size discrepancy is not that serious. They are white with brown varices, rather than orange, but other than that there is no difference between the two species; regrettably, I suspect that *crouchi* is an older name for *guamensis*. The matter of generic assignment is difficult. The shell does not have the chunky, globular form of *Favartia* but, neither does it have the expanded varices of

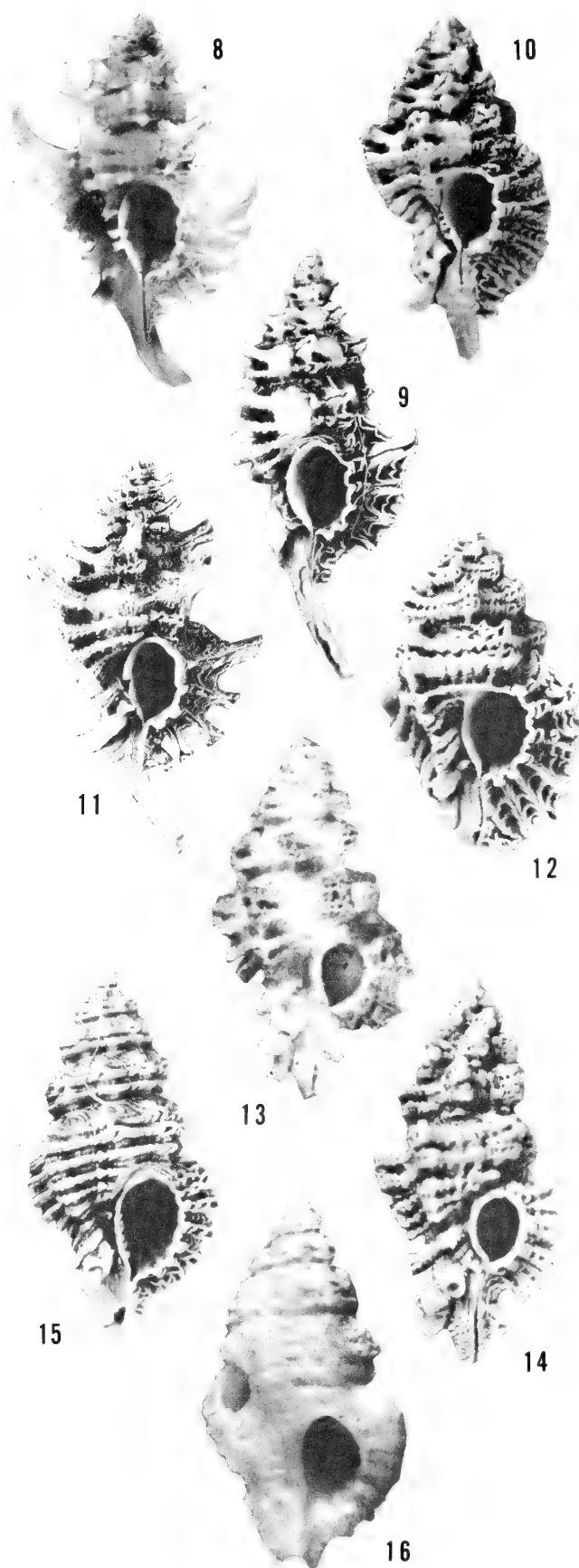
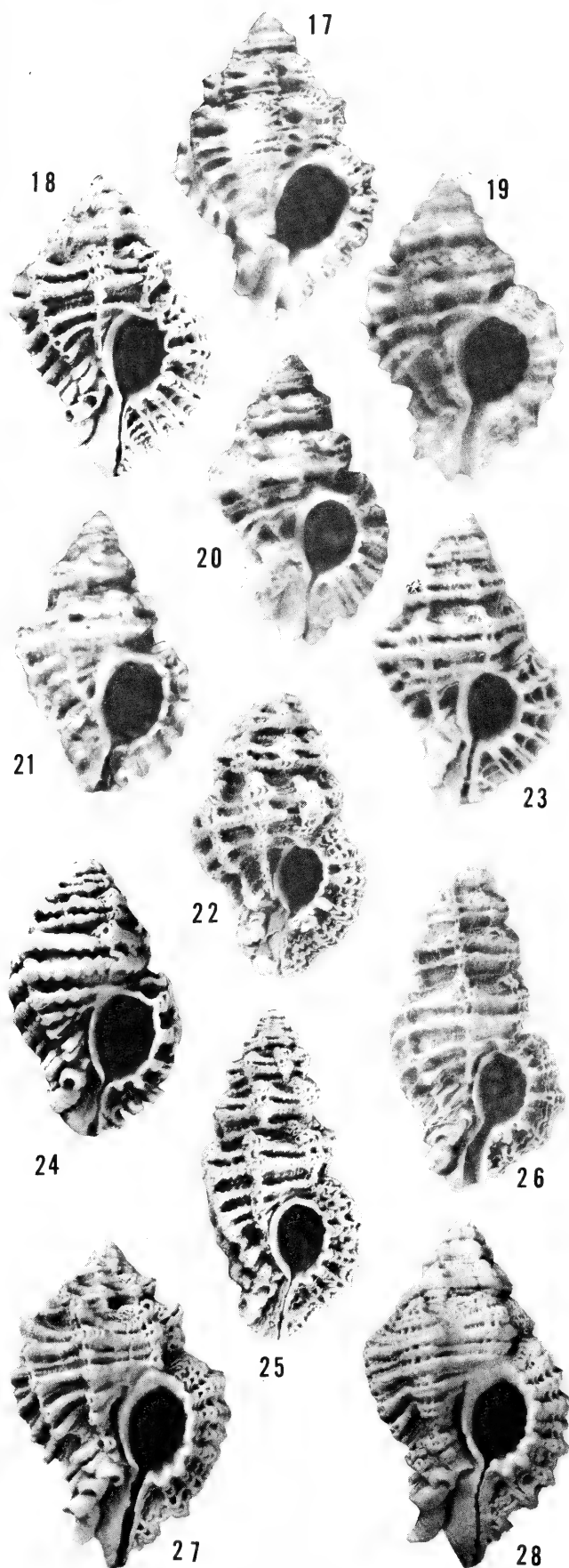


Plate II, Explanation of figures:

8. *Murexiella peregrina* Olivera. Type USNM 783326; P.I.; height 9.7 mm.
9. *Murexiella peregrina* Olivera. P.I.; height 16.0 mm.
10. *Murexiella* "false-*peregrina*." P.I.; height 12.0 mm.
11. *Murexiella martini* Shikama. P.I.; height 22.0 mm.
12. *Favartia* "false-*peregrina*." P.I.; height 13.3 mm.
13. ?*Favartia crouchi* (Sowerby). Type BMNH 90.9.23.4; Mauritius; height 14.7 mm.
14. ?*Favartia guamensis* Emerson & D'Attilio. Guam; height 8.5 mm.
15. *Favartia jeanae* Bertsch & D'Attilio. P.I.; height 8.0 mm.
16. *Favartia pumilus* (A. Adams). Type BMNH 1974.66; "China Seas;" height 9.2 mm.



*Murexiella*. And, certainly, the anal notch is characteristic of neither group. It probably should have a new genus erected for itself alone.

Moving into the realm of unquestionable *Favartia* species we come next to *F. jeanae* Bertsch and D'Attilio (fig. 15). This is another tiny form (about 10 mm) that has one unmistakable attribute — it has several small denticles on the columellar lip. In the type collection of the BM(NH) there is the type of *Murex pumilus* Adams (fig. 16), which measures 9 mm in height, is also orange in color and has denticles on the inner lip. There is no question in my mind that the two names refer to the same species but, fortunately, the name *Murex pumilus* Adams, 1854, is preoccupied by *M. pumilus* Broderip, 1833, and thus *F. jeanae* is the valid name for the form.

Another widespread species of *Favartia* is *Murex cyclostoma* Sowerby (fig. 17), which was the subject of a recent paper by D'Attilio and Myers (1984) in which they demonstrated that *Murex nucula* Reeve (fig. 19) and *Murex sykesi* Preston (fig. 20) are synonyms. They also suggested that the species is confined to the Indian Ocean and my records agree with this assessment. I do have examples from the Bismark Archipelago but that seems to be the extent of the species' incursion into the Pacific.

A similar appearing species, with a similar geographic distribution, is the one that was considered by Radwin and D'Attilio (1976, p. 151, pl. 29, figs. 6, 7) to be "*Murex peasei* Tyron" but which I believe is not that species (see Vokes, 1984). The shell (fig. 22) has low rounded axial ribs in place of the almost *Murexiella*-like flaring varices of *F. cyclostoma*. But comparison of two specimens of *Favartia cellulosa* (Conrad) (figs. 27, 28) from Florida, shows that this degree of variability is not unexpected in the members of the group. Whether the two forms found in the Indian Ocean and adjacent parts of the south Pacific are conspecific remains to be seen.

Another group of names that may apply to one of several species is the group of small (15 mm) chunky, rather typical members of *Favartia*, the most recently named taxon of which is *F. dorothyae* Emerson and D'Attilio. This new species was compared to *F. salmonea* (Melville and Standen) and the latter was considered to differ in color, in having a higher spire, and a more distinct break between the varices and the siphonal canal. Comparison of Philippine specimens of *F. dorothyae* (fig. 31) and Australian examples of *F. salmonea* (fig. 33) failed to show any differences I consider significant. The type of *F. salmonea* (fig. 34) is approximately the same size as the Philippine *M. dorothyae* figured here, but both are smaller than the Australian specimen in fig. 33.

However, both of these names may be synonyms of a yet older name, *Murex maculatus* Reeve (fig. 37). Worn specimens of *F. dorothyae* from the Philippines (fig. 35) are very like the type of *F. maculata*, except for a higher spire in the Reeve shell, which is more like *F. salmonea* in general outline. The color in this species is variable, usually being some form of pink or orange. Reeve described *Murex maculatus* as: "whitish, conspicuously stained between the varices with a reddish brown spot, columella and interior of the aperture tinged with pink." There are Philippine

Plate III, Explanation of figures:

17. *Favartia cyclostoma* (Sowerby). Type BMNH 1982.158; "P.I.," height 25.5 mm.
18. *Favartia cyclostoma* (Sowerby). Mozambique; height 11.7 mm.
19. *Favartia nucula* (Reeve). Type BMNH 1974.87; "P.I.," height 16.8 mm.
20. *Favartia sykesi* (Preston). Type BMNH 1905.2.8.7; Ceylon; height 20.5 mm.
21. *Favartia natalensis* (Smith). Type BMNH 1906.6.23.14; South Africa; height 13.8 mm.
22. *Favartia "peasei"* Radwin & D'Attilio; Mozambique; height 11.1 mm.
23. *Favartia garrettii* (Pease). Hawaii; height 9.7 mm.
24. *Favartia natalensis* (Smith). Natal, South Africa; height 10.1 mm.
25. *Favartia (Caribiella) alveata* (Kiener). Curaçao; height 18.9 mm.
26. *Favartia (Caribiella)* sp. P.I.; height 13.9 mm.
27. *Favartia cellulosa* (Conrad). Tea Table Key, Florida, height 16.0 mm.
28. *Favartia cellulosa* (Conrad). Tea Table Key, Florida, height 17.3 mm.

specimens of *F. dorotheae* (fig. 32) that match this description exactly. Therefore, it seems probable that both *F. dorotheae* and *F. salmonea* are simply color varieties of the Reeve species.

This is obviously also the same form I figured from South Africa as *F. (?) salmonea* (Vokes, 1978, pl. 7, fig. 8; refigured here, fig. 36) indicating that the species has a much wider distribution in the Indo-Pacific than just the Philippine Islands. However, a second specimen I figured at the same time, under the same name (*ibid.*, pl. 7, fig. 7) is not *F. maculata* (or *salmonea*) but is *F. marjoriae* (Melvill and Standen) (fig. 29) named from the Persian Gulf. The latter is a larger species (height 25-30 mm) with a much higher spire (fig. 30). As far as I know it is found only in the Indian Ocean.

Finally there are two other species that are thrown in just to complete the confusion. While preparing the plates for his book of Philippine shells, Springsteen sent me a couple of specimens that he could not identify. Neither could I, noting only that they seemed to be a new species of *Favartia* (*Caribiella*). But the more I have looked at the shell (fig. 26) the more sure I am that somehow specimens of the western Atlantic *F. (C.) alveata* (Kiener) (fig. 25) have made their way to the Philippines. Whether it was some shell collector emptying out dirty collecting bags, or gods from outer space, I cannot say. But unless someone finds a lot more of this form in the Philippines I shall refuse to believe it is a native.

Certainly Springsteen's shells were found in the Philippines which is more than I can say for another case of mixed localities. In this case, although the type locality of *Murex castus* Adams was said to be "China Seas," there can be no doubt that the type specimen in the BM(NH) (fig. 39) is identical with the East Pacific *F. incisa* (Broderip) (fig. 38). Many of Adams' localities were wrong and this is apparently just another one of them. Strangely, although the type has been figured at least three times (Yen, 1942, pl. 21, fig. 141; Fair, 1976, pl. 20, fig. 301; Kaicher, 1980, no. 2571) no one seems to have ever questioned the locality. *Favartia angustoma* (Küster) is another synonym.

We still have a long way to go before the problems of the various identities of the many Indo-Pacific species of *Murexiella*/*Favartia* are finally stabilized. But let us hope that this comparison has at least helped.

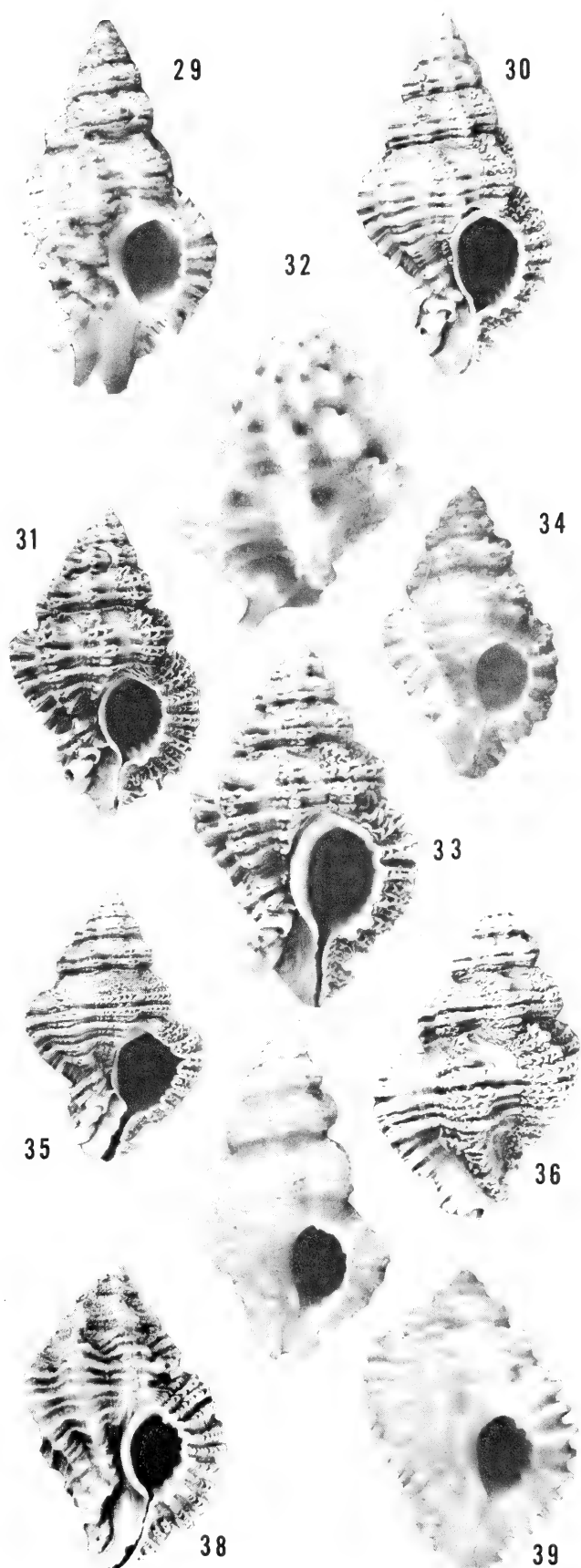
I am extremely grateful to John D. Taylor and Kathie Way, of the Mollusca Section, British Museum (Natural History) for their hospitality extended to me during my visit in Summer, 1984. The photographs of specimens in their collections are reproduced courtesy of the Trustees of the Museum. Thanks also to Tony D'Attilio and David K. Mulliner for the photos of *Favartia cyclostoma* and *F. nucula*. And, especially, thanks go to Bob Foster and Charles Glass for most of the Mactan specimens figured herein.

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- All originally named as *Murex*, unless otherwise noted.  
*alveatus* Kiener, 1842, Coq. Viv., v. 7, p. 94, pl. 46, fig. 2 (originally issued in parts, *Murex* plates in 1842, *Murex* text in 1843).  
*angustoma* Küster, 1869, Conchyl.-Cab., ed. 2, v. 3, no. 2, p. 88, pl. 31, fig. 7.

#### Plate IV, Explanation of figures:

29. *Favartia marjoriae* (Melvill & Standen). Type BMNH 1903.11.5.18; Persian Gulf; height 27.9 mm.
30. *Favartia marjoriae* (Melvill & Standen). Thailand; height 15.5 mm.
31. *Favartia dorotheae* Emerson & D'Attilio. P.I.; height 13.5 mm.
32. *Favartia dorotheae* Emerson & D'Attilio. P.I.; height 13.5 mm.
33. *Favartia salmonea* (Melvill & Standen). Dampier, W.A., Australia; height 18.5 mm.
34. *Favartia salmonea* (Melvill & Standen). Type BMNH 1899.2.23.24; Torres Straits, Australia; height 11.9 mm.
35. *Favartia dorotheae* Emerson & D'Attilio. P.I.; height 13.5 mm.
36. *Favartia maculata* (Reeve). Natal, S. Africa; height 19.7 mm.
37. *Favartia maculata* (Reeve). Type BMNH 1972.020; locality unknown; height 12.5 mm.
38. *Favartia incisa* (Broderip). Guaymas, Mexico; height 23.3 mm.
39. *Favartia casta* (A. Adams). Type BMNH 1974.67; "China Seas;" height 16.5 mm.





- balteatus* Beck in Sowerby, 1841, Conch. Illus., *Murex*, pl. 191, fig. 83; 1841, Proc. Zool. Soc. London, pt. 8, p. 146.
- breviculus* Sowerby, 1834, Conch. Illus., *Murex*, pl. 63, fig. 37.
- castus* A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 71; Sowerby, 1879, Thes. Conch., v. 4, *Murex*, fig. 225.
- cellulosus* Conrad, 1846, Proc. Acad. Nat. Sci. Phila., v. 3, p. 25.
- cirrosus* Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 128; 1844, Voyage Sulphur, Zool., Moll., pl. 3, figs. 17, 18.
- couchi* Sowerby, 1894, Proc. Malac. Soc. London, v. 1, p. 41, pl. 4, fig. 9.
- cyclostoma* Sowerby, 1841, Conch. Illus., *Murex*, pl. 194, fig. 95; 1841, Proc. Zool. Soc. London, pt. 8, p. 146.
- dorothyae* [Favartia] Emerson & D'Attilio, 1979, Nautilus, v. 93, p. 5, figs. 3, 4, 15, 16.
- exiguus* Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 175; Sowerby, 1834, Conch. Illus., *Murex*, pl. 60, fig. 17.
- exiguus* Garrett, 1857, Proc. Calif. Acad. Sci., v. 1, p. 114.
- florifer* Reeve, 1846, Conch. Icon., v. 3, *Murex*, pl. 36, fig. 188.
- garrettii* Pease, 1868, Amer. Jour. Conch., v. 4, p. 103 (n.n. pro *M. exiguus* Garrett non Broderip).
- guamensis* [Favartia] Emerson & D'Attilio, 1979, Nautilus, v. 93, p. 4, figs. 11, 12.
- hidalgoi* Crosse, 1869, Jour de Conchyl., v. 17, p. 408; 1871, *ibid.*, v. 19, pl. 1, fig. 4.
- incisus* Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 176; Sowerby, 1834, Conch. Illus., *Murex*, pl. 59, fig. 13.
- jeanae* [Favartia] Bertsch & D'Attilio, 1980, Venus, v. 39, p. 133, figs. 3-5.
- judithae* [Favartia] D'Attilio & Bertsch, 1980, Trans. San Diego Soc. Nat. Hist., v. 19, no. 12, p. 177, fig. 4.
- macgintyi* M. Smith, 1938, Nautilus, v. 51, p. 88, pl. 6, fig. 11.
- mactanensis* [Murexiella] Emerson & D'Attilio, 1979, Nautilus, v. 93, p. 1, figs. 7, 8.
- maculatus* Reeve, 1845, Conch. Icon., v. 3, *Murex*, pl. 33, fig. 136; 1846, Proc. Zool. Soc. London, pt. 13, p. 108.
- marjoriae* Melvill & Standen, 1903, Ann. Mag. Nat. Hist., (ser. 7) v. 12, p. 308, pl. 22, fig. 10.
- martini* [Murexiella] Shikama, 1977, Sci. Rept. Yokohama Natl. Univ., Sec. 2, no. 24, p. 15, pl. 2, fig. 10.
- mundus* Reeve, 1849, Conch. Icon., v. 3, *Murex*, errata; n.n. pro *M. exiguus* Reeve, pl. 32, fig. 166.
- natalensis* [Ocinebra] E.A. Smith, 1906, Ann. Natal Mus., v. 1, p. 38, pl. 7, fig. 9.
- nucula* Reeve, 1845, Conch. Icon., v. 3, *Murex*, pl. 29, fig. 131.
- peasei* Tryon, 1880, Man. Conch., v. 2, p. 129, pl. 38, fig. 462 (n.n. pro *foveolatus* Pease non Hinds).
- pelepili* [Favartia] D'Attilio & Bertsch, 1980, Trans. San Diego Soc. Nat. Hist., v. 19, no. 12, p. 174, fig. 3.
- peregrina* (Murexiella) Olivera, 1980, Veliger, v. 23, p. 19, figs. 1-3.
- pumilus* Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 175.
- pumilus* A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 70; Sowerby, 1879, Thes. Conch., v. 4, *Murex*, fig. 200.
- salmoneus* Melvill & Standen, 1899, Jour. Linn. Soc. London, v. 27, p. 162, pl. 10, fig. 2.
- shilohensis* Heilprin, 1888, Proc. Acad. Nat. Sci. Phila., v. 39, p. 404; Whitfield, 1894, U.S. Geol. Surv., Mon. 24, pl. 17, fig. 1.
- sykesi* Preston, 1904, Jour. of Malac., v. 11, p. 76, pl. 6, figs. 7, 8.

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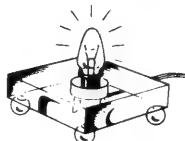
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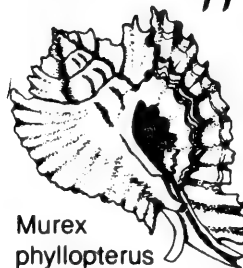
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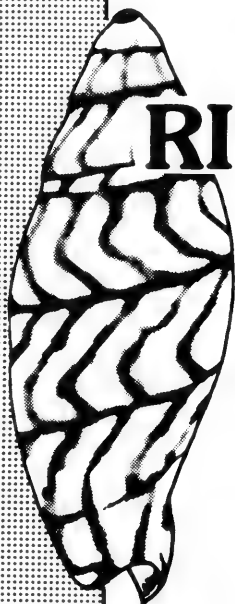
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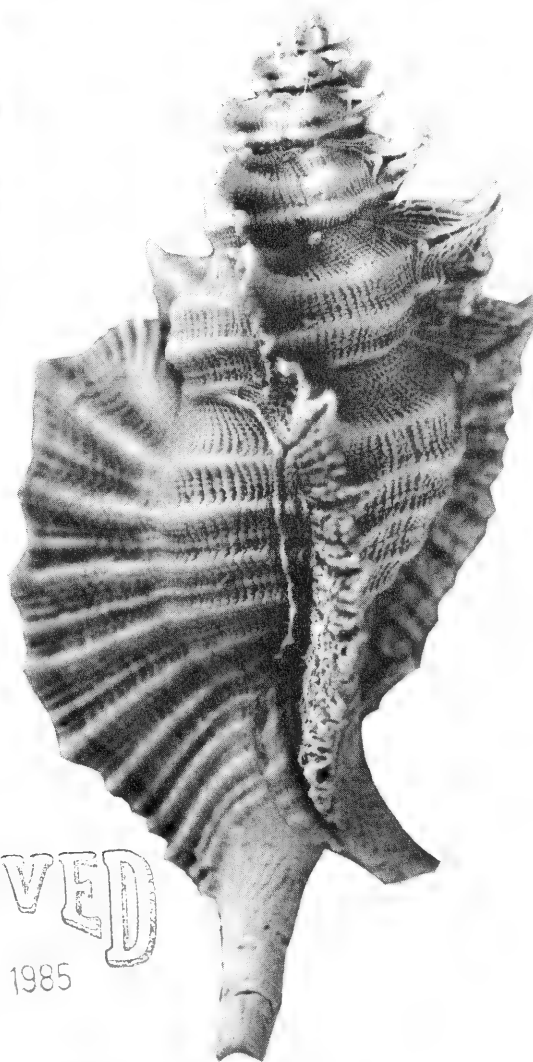
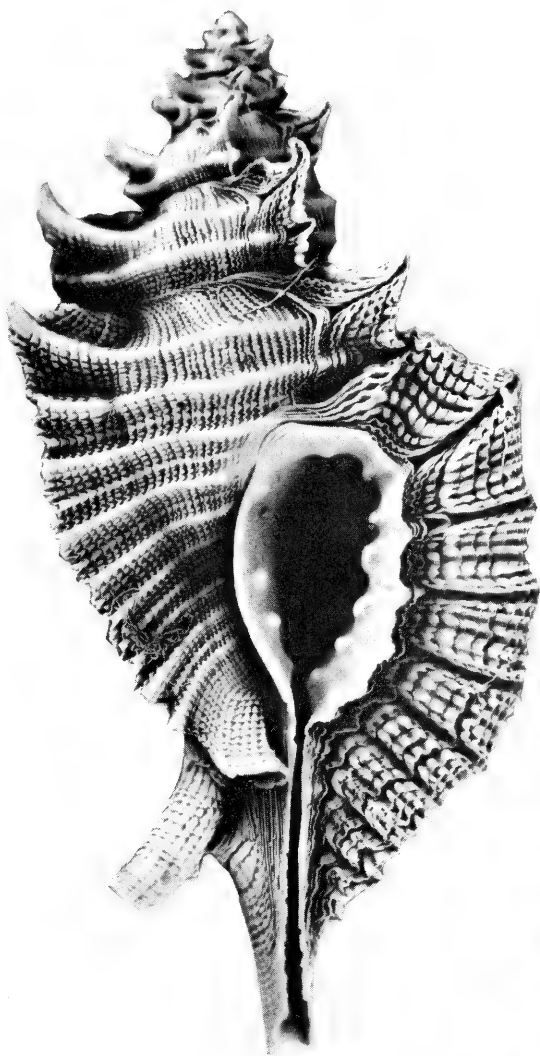
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**CONCHOLOGISTS OF AMERICA BULLETIN**

**VOL. 13, NO. 3**

**SEPTEMBER, 1985**



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In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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COVER PLATE: *Pterynotus dondani* (Kosuge, 1984). We thank Dr. Emily Vokes for this excellent photographic study of AbS 84-421, a brown 21mm long specimen from Davao, Mindanao in the Philippines where it was taken in deep water with tangle nets by fishermen. The species was originally described as a new *Pterochelus*. In Bulletin of the Institute of Malacology, Tokyo, 2(2):21-22 (1985), Vokes, referred *P. dondani* to *Pterynotus* s.s.

#### MYSTERY SOLVED

Your "Mystery Shell" is *Plesiotriton vivus* Habe & Okutani, 1981 (Buccinidae, Colubrariinae). See Venus, Vol. 39, No. 4, pp. 103-104. However, Colubrariinae is now generally considered a family, not Subfamily. It wouldn't surprise me to find it's an odd Cancellariid!

Sally Kaicher  
St. Petersburg, FL

Dear Editor: I am writing to you in reference to the "Mystery Shell" picture which appeared on p. 24 of Vol. 13, No. 2 (June, 1975). The shell pictured is the species *Pisanella viva* (Habe & Okutani, 1981), and does indeed belong to the family Cancellariidae. Its assignment to the Cancellariidae is based not only on the columellar plications, but also from radula studies of preserved material housed in the B.M. (Nat. Hist.). Originally described under the genus *Plesiotriton* Fischer, 1884 which was based on a European fossil species (*Cancellaria volutella* Lamarck), this species is an example of a living fossil genus. The name *Plesiotriton* is preempted by the genus *Pisanella* von Koenen, 1865, and becomes a synonym thereof. This species is uncommon & is taken in deep water in the Central Philippines.

Hope this information is of help to your readers.

Cordially,  
F.J. Springsteen  
Melbourne, Australia

We would also like to thank Phil Clover of Glen Ellen, CA, for correctly identifying the "Mystery Shell."

The Editors

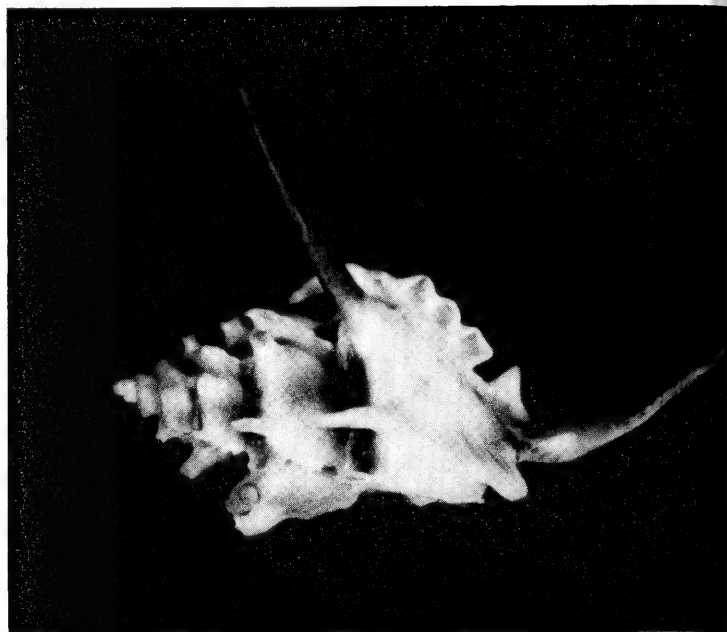


Fig. 1. A 27mm specimen of *Typhis yatesi* from the Foster & Glass collection (AbS 85-290) coll. by diver at 45 ft. on sandy silt bottom. Coffins Bay, Eyre Peninsula, South Australia. Photo Foster & Glass.

## ILLUSTRATIONS AND COMMENTS ON TYPHINA YATESI (CROSSE, 1865)

by ANTHONY D'ATTILIO

Department of Marine Invertebrates, San Diego Natural History Museum, San Diego, CA.

What seems to me a splendid example of *Typhina yatesi* was brought to my attention by Bob Foster recently. It is a large, perfect example of this species and as such displays some outstanding features. Most members of this family are difficult to come by. They are small; many probably burrow in muddy sand and are found in deeper than subtidal waters. Some years ago, in a paper published in 1944, Dr. Myra Keen remarked that in doing the first modern catalogue of *Typhis* shells, she had at most a small drawer full and that this was as much as could be found in any large museum collection. The number of Recent living species known are not that many more than those extinct, according to most accounts.

The intricacy of structure of these small muricids has been of great interest to me both for malacological as well as aesthetic purposes. During the 10 year period between 1950 to 1960, when I was doing most of my active collecting by exchange or purchase, very few came to my attention. A well-to-do friend of mine at that time, Mrs. Ruth Craine, asked me what she could collect to show as a genus or family which she could then enter in a show in Florida. My first suggestion, that she followed, was *Cancellaria*. After several years' effort she was successful in winning the appropriate prize for her entry. After this she came to me again and I told her, off hand, that if she really wanted a difficult group to try to bring together for a show she should try *Typhis* shells next. This, after a few more years went by, she admitted to me was an impossible task. I was not oversuprised at her reaction.

To return to *Typhis yatesi* Crosse, 1865, George Radwin and I had, mostly on loan, as many Recent species as we could get hold of when we did the *Murex* book. At that time I also borrowed some fossil species, mainly from Dr. Emily Vokes. As the book came to a close, I realized how deeply I had become involved in this family and began, about 10 years ago, to prepare a catalogue in the manner of the 1944 catalogue of Dr. Keen's. Because of the complex nature of the morphology of the family and, in addition, the functional tube

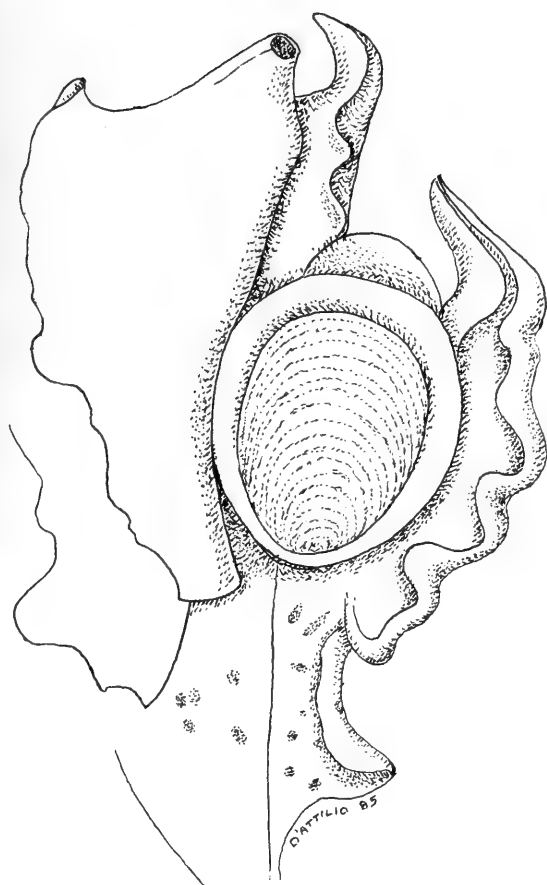


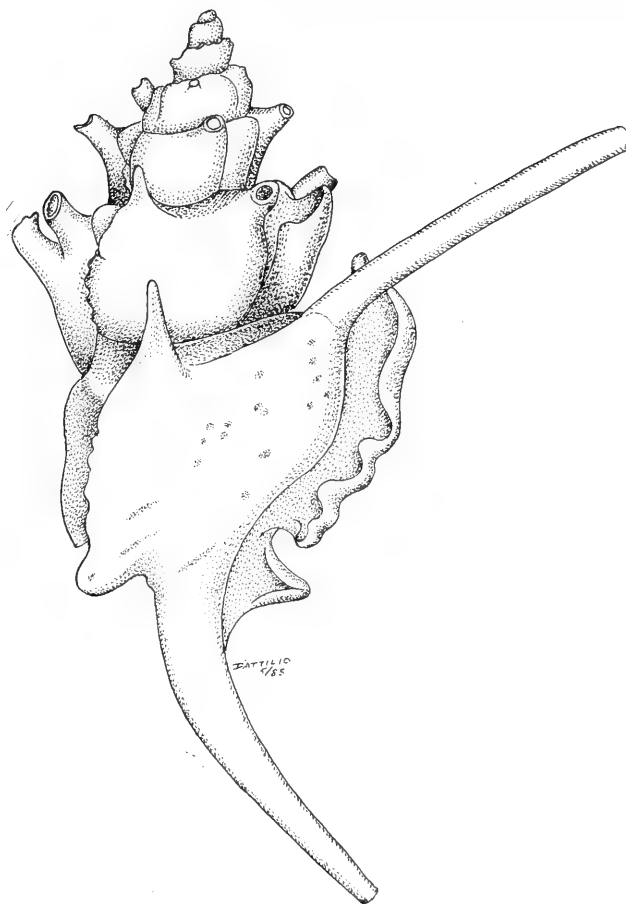
Fig. 2 (above). Detail of apertural region of shell figured in fig. 1, and (fig. 3, above right) lateral view of the same shell.

or spine tube, I thought it best, because of their small size, to make *camera lucida* drawings of them in order to bring out in intimate detail the fine characters visible often only at the highest power of a light microscope. The completion of this work has been slow as I found the Coralliophilidae and various small Muricid genera more easily accessible for study by loan or acquisition for the Museum. My Magnum Opus on *Typhis* may yet see the light of day, especially now that I have my friend, Carole Hertz, as co-author to aid me. The published literature is comparatively very small for this family and it fills only a couple of folders.

#### *Typhina yatesi* (Crosse, 1865)

The specimen I examined in the Glass & Foster collection (figure 1) is probably an outstanding one although admittedly I have examined very few of this species. It is 27mm in height compared to 14mm for the type. The perfect spine or anal tube is 10mm long and the siphonal tube 8mm long. Both are a rich brown color. The varical flange starts above the shoulder and forms a small, elevated partition-like fold above the aperture and recedes backward behind the apertural tube, descending towards the siphon. The edge of this flange is folded over and forms a spine at the shoulder. Below it is curved forward into a series of undulating folds (figure 2). At the bottom of the body whorl there is a gap and then a broad based short spine ending on the canal. Figure 3 is a lateral view chosen to display the length of the tube at the shoulder and the siphonal tube, both of which are slightly bent, as shown. As in the majority of typical *Typhinae*, there are 4 tubes per whorl which start directly on the first post-nuclear whorl.

The shell is angulate, depressed on the shoulder between the varices. The older outer lip remains preserved and joins with the varices in thickening the buttress behind the tube.



Shell microsculpture consists of small, scooped out or chiseled pits, transversely arranged on the intervarical surface. Over these gouged out pits the appressed growth lamellae are irregular and the leading edge of the lamellae is much frayed over the gouged surface.

In addition to the brown shoulder and siphonal tubes, there are widespread brown maculations in spots or streaks. The depressed area on the shoulder is also colored deep brown.

#### REFERENCE:

Cross, H. 1865. Journal de Conchyliologie. 13:54, Pl. II.

#### LETTERS TO THE EDITORS

##### TIME LIMITS?

Dear Editors: This is in response to your March 1985 editorial "Proper care and handling of Shell Dealers," particularly the remarks directed at my column *Dealing With Dealers* (Shells & Sea Life, Vol. 16:12, 1984). You stated that "normal consideration would dictate how soon shells should be returned" and then cite the "golden rule," asking the reader "would you expect to wait two weeks before an order you placed with a dealer was filled and shipped?"

The problem is that the "golden rule" does not apply here because you are comparing apples and oranges. I did not say to "wait two weeks and then mail back the shells." Rather, I stated "try to get the shells in the mail within two weeks of receipt." I intended the two week period to act as a limit, and of course would expect a reasonable customer to return shells as soon as possible. However, due to employment schedules and other factors, some people are only able to get to the post office once a week, and need some time putting the box together. A dealer is infinitely more prepared to send out an order in a day or two, so I feel it is unreasonable to expect the customer to get the shells back in that same period of time.

What do other C.O.A. members think of the two week time limit? Would you rather have a longer or shorter period to return your purchases?

Sincerely,  
David DeLucia

We would suggest that reasonably (and considerably) prompt return is specific enough.

The Editors

## THE BEACH THAT NOBODY LOVED

by PAMELA SCOTT

A cool morning, it would turn hot before noon. The beach, exposed seemingly half way to Texas, was a flat, soggy moonscape, sprinkled with occasional large colonies of long-dead oysters. Crab holes were everywhere, surrounded by pea-gravel-size sand balls.

"That beach," said my mother, "is awful. The sand isn't white and powdery and you won't find any shells, only crabs and dead oysters. You won't like it; nobody does."

That beach, I found, was one of the more fascinating of those I've explored. My mother raised a stubborn daughter; I prefer to make my own judgments.

Pine Island, just off the coast of Florida near Weeki Wachee, is reached via a palm-lined causeway surrounded for miles by fields of tall grasses and edged by muddy canals. Signs of humanity don't jump out at you until a sharp curve in the road brings you onto the island itself. If there are thirty homes standing there it would be a surprise. A public beach opens in the morning and is locked up each night. We park there and mother plants herself on a beach lounge while I wander off to see what I can find.

In early morning there's no one on the beach. I slosh out on the soggy, dun-colored sand to the oyster bars. I see my first shell there, buried in the sand and barely visible. A king's crown! I pull it out and find an ivory and black animal peering out at me. I let him explore the palm of my hand for a while and then return him to his spot where he again begins to dig in. Looking around me I find dozens of the creatures; one of them is pursuing a tiny orange nassa. Both animals are moving surprisingly swiftly over the sand.

Crouching down I look carefully around the rocks and discover among the numerous single oyster valves, several species of small, dead bivalves. An occasional lightening whelk and two or three pear whelks, long deceased, show up, along with a few king's crowns in the same state. Hundreds of live oyster drills are resting in niches in the rocks.

The tide is beginning to return now and I find myself wading through ankle-deep water as I head back towards the beach. The sun is hot and the water tepid. Up north, my husband and friends are suffering a terrible ice storm. I feel no guilt, only an appreciation of being where I am at this moment.

At the high tide line I stop to feed the gulls, a favorite passtime of mine and theirs. When the bread is gone I again crouch down to see what I can see. It takes a while for my vision to adjust, but then my eyes begin to pick out the individual shells. There's an abundance of pretty dove shells with vivid colors and nice sharp spires. Marginellas, nassas, shark's eyes and lots of tiny ceriths make up the shell drift here. I gather as much as I can before mother comes looking for me. She wants to leave; the public beach is filling up with teenagers who have brought their stereo speakers from home to blast out Prince and Cyndi Lauper as the kids take over the beach for their private football field. Yes, it's time to go.

I returned to the island twice more during my visit, leaving mother with her bridge club. I attempted to photograph everything in my sight, but finally ran out of film. So, now I'm back in the Midwest with my pictures, my shells, and memories of a lovely, quiet beach that I will never forget. I just pray that when I return to it some day I am able to find it just as serene, just as beautiful and just as natural.

### SPECIES FOUND:

*Melongena corona* Gmelin  
*Busycon contrarium* Conrad  
*Busycon spiratum* Lamarck  
*Urosalpinx cinereus* Say  
*Polinices duplicatus* Say  
*Marginella apicina* Menke  
*Columbella mercatoria* Linne  
*Nassarius vibex* Say  
*Anachis lafresnayi* Fisher & Bern.

*Cerithium muscarum* Say  
*Modulus modiolus* Linne  
*Anatina anatina* Spengler  
*Geukensia demissa* Dillwyn  
*Linga persylvanica*  
*Tellina lineata* Turton  
*Tagelus divisus* Spengler  
*Anomalocardia auberiana* Orbigny  
*Macrocallista maculata* Linne

## STROMBUS TAURUS Reeve, 1857

IN SEARCH OF THE MARSHALLESE BULL CONCH  
 by LISA BOUCHER

The Marshall Islands support a rich diversity of shell life, yet because of their proximity to other central Pacific island groups, few species occur there which are endemic or not as readily found at neighboring localities. *Strombus taurus* Reeve, commonly known as the "bull conch," is one such exception. Although bull conchs are occasionally found in the Marianas Islands, concentrated numbers occur only in the Marshalls, their home island group.

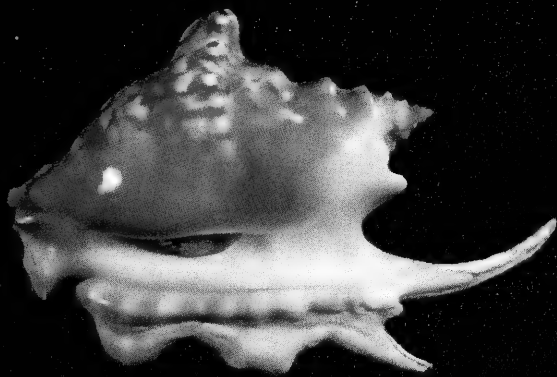
In gem condition, *Strombus taurus* is a striking species characterized by a greatly thickened, ridged, outer lip which bears two finger-like spines toward the top; a short, curved, outer spine, and a longer, straight, inner spine. The shell is quite heavy for its moderate size. Large specimens reach 140cm, though most range from 100-120mm. The background color is creamy white, irregularly marked with blotches of orange or reddish brown. Deep within the aperture, the color is lavender, and the sutures of the early whorls are also frequently bordered with lavender. In gem specimens, the dorsum may be as glossy and richly colored as the face. Because of their beauty, distinctive form, and scarcity worldwide, bull conchs are highly prized.

Aside from being a desirable collector's item, *Strombus taurus* is intriguing because of its unusually patchy distribution. It is rare throughout its range, yet at a select few sites, it may be so common that "herds" of hundreds can be found. Bull conchs have been known at Kwajalein Atoll to suddenly appear in great numbers at a given site, then mysteriously disappear again for years. Their life history remains a mystery. No one knows why they herd together, why they are so common at just a few localities, or why they come and go.

Several years ago, I had the good fortune to live and work as a biologist at the remote atoll of Enewetak, Marshall Islands; a site infamous, along with Bikini Atoll, as the proving ground for U.S. atomic weapons in the late 40's and early 50's. In that extremely isolated environment, my passion for shells provided my chief entertainment. Through countless hours of snorkeling, diving, reef walking, and beachcombing, I accumulated a fine assortment of shells which included such desirable species as the golden cowry, *Cypraea aurantium*, and the fluted murex, *Marchia laqueata*. But adding a self-collected bull conch to my collection turned out to be no simple matter. Despite my devotion to the search, *Strombus taurus*, dead or alive, very nearly eluded me completely.

I knew precisely where bull conchs were found at Kwajalein Atoll. But Kwajalein's lagoon, the largest in the world, is used by the U.S. military for classified missile testing missions. The top brass is unmoved by desperate shell collectors, and access by outsiders is strictly limited. My search was concentrated, therefore, at Enewetak, where I began a futile survey of likely habitats. In dozens of dives I searched sand and rubble bottoms to depths of 80 feet, with *Strombus luhuanus* and *S. gibberulus* by the thousand as my only reward. Dive buddy, Scott Johnson, took advantage of my growing frustration by coaxing me into exploring new lagoon pinnacles which I had previously refused to dive for fear of the grey reef sharks I knew we'd encounter. But in spite of our efforts, we were disappointed over and over again.

There being no choice, I turned to the Marshallese for help, knowing that I was adding to my image as a "dribelle" (foreigner) of suspect intelligence. The only shells of interest to the Marshallese are edible species such as *Trochus* and *Tridacna*; all others are regarded as mere children's toys. Although my fascination with seashells was a puzzle to them, they are a good natured people who sometimes sought to win my friendship with gifts of beachwashed shells or pockets filled with money cowries. So, to their great amusement, I showed them a bull conch, and asked them to point out on a map of the atoll where such shells occurred. To my surprise, they were familiar with the species. Regarding Enewetak, the responses were varied, but on one point everyone agreed; Rongelap Atoll was the best place to find bull conchs. I was told



repeatedly that they are very common there.

Luckily, my work was to take me to Rongelap on two occasions. With the aid of my Marshallese friends I learned enough of the language to comprehend whatever information the people of Rongelap (who speak little English) could give me. I was also armed with information on *S. taurus* published by R.T. Abbott in *Indo-Pacific Mollusca*. The figured specimens were collected at Rongelap, and detailed collection data are provided. My expectations ran high.

On the first trip, we spent a lot of time in the water taking core samples of lagoon bottom sediments. But weighted down as I was with sampling gear, looking for shells was nearly impossible. At the first opportunity, I jumped ship to snorkel in a channel between two islands in the atoll's northeast corner. There I allowed myself to drift lazily in the current while scanning the bottom. But all I manage to collect was a large and toothy swimming companion which distracted me greatly from my search. The trip was ultimately disappointing, as stormy weather prevented us from doing any further shelling. I went home empty-handed and despaired of ever finding a bull conch of my own. Although I continued to search Enewetak and other atolls in the Marshalls, in more than two years of looking, I never found even a trace.

My next chance at Rongelap came nearly a year later, just a few months before I was scheduled to leave the Marshalls permanently. With only two days, and a great deal of work scheduled, I figured my chances for finding the shells slim at best, and went prepared to admit defeat.

On the first day of sampling, we drove our 21 foot Boston Whaler to the atoll's northeast corner, where again, we dove for sediment samples. Late in the afternoon, on our return, we stopped lagoon-side of Jorkan Island. Expecting nothing, we allowed the boat to drift along in 10-15' of water, over a bottom dominated by sand and rubble, while we peered into the water from above with facemasks. Only a few minutes had passed when Scott suddenly jumped overboard and surfaced holding a live bull conch! The boat was instantly abandoned as Scott, myself, and our friend Lori Colin scattered to find more, but all the commotion attracted a shark into the area, and I was soon back on board. Scott knew just what to do. He simply surfaced near the boat, this time holding up a live bull conch in *each* hand. The shark was forgotten as soon as I got back in, for there, at last, were the bull conchs. It is difficult to describe how greatly excited and amazed I was, after searching for so long, to find myself in a habitat where the coveted shells simply lay scattered about, singly, or in groups of up to a dozen. In fact, the area was apparently some sort of strombid heaven. Although *S. taurus* dominated the scene, other species such as *Lambis lambis*, *L. truncata*, and *Strombus lentiginosus* were also unusually abundant. We were also pleased to find several nice *S. sinuatus*, a species uncommon in the Marshalls.

We spent several hours just allowing the boat to drift with the strong tidal currents over the shallows along the islands south to Enewetak Island, while we swam or drifted with it, snorkeling down now and then to pick up the more promising specimens. In just two hours we found approximately 300. By chance, the boat drifted onto a tidal terrace in just 4 feet of water, and it was there we found the greatest concentration of shells — our first honest to goodness herd. Finding them in such shallow water was a great surprise. My failure to find them earlier may have been the result of looking too deep. Another surprise was the generally poor condition of the shells we found. One could easily pick through a dozen shells and not find a single one suitable for collection. The majority had ugly, pitted surfaces resembling concrete, worn off fingers, and darkened, over-calloused mouths. Gem specimens are a true rarity.

As for the mystery of their patchy distribution, our observations at Rongelap suggest two possibilities. The sheer abundance of large strombid species there may reflect that the habitat is in some way unique; perhaps the algal growth that these herbivorous species require is unusually abundant. Yet, no features of the habitat appeared obviously different from similar habitats throughout the Marshalls. Or perhaps, *S. taurus* is simply a rare species which has

Figs. 1 & 2. Apertural and dorsal views of a 99.3cm long specimen of *Strombus taurus* (AbS 85-296) collected by Lee Rousseau in 25 ft. on sand, Gagan coral head, Kwajalein Atoll lagoon. Photos Foster & Glass.



managed to dominate a few localities through random processes. One critical observation at Rongelap lends support for this point of view. The blood mouth conch, *Strombus luhuanus*, which is ubiquitous in shallow water habitats throughout the Marshalls, was conspicuous in its absence from the *S. taurus* habitat of Rongelap. Just a handful were seen in our two days at the site. Similarly, *S. gibberulus*, another extremely common species, was less common there.

Random events can change species distributions in a number of ways. Habitat changes, even subtle ones, may cause the demise of a dominant species, leaving a niche open for recolonization. A different species may subsequently become dominant simply because its larvae arrive first and gain a foothold ahead of the competition. Or a food item may become plentiful in a similar manner, allowing one species to flourish. By these means, species may undergo "episodic" blooms which may or may not persist for long periods. At Rongelap, *S. taurus* may have supplanted the small, extremely common species such as *S. luhuanus* and *S. gibberulus* through such chance events.

Back on the boat, we took gleeful photos of ourselves surrounded by bull conchs, then carefully selected specimens for ourselves and



friends. After spending a total of about 5 hours looking through hundreds of bull conchs in the wild, we managed to find 2 or 3 which we consider gems. These shells are my prize Marshall Islands souvenir, and I treasure them more than any other shell in my collection because they were so hard won. To have my search for *Strombus taurus* so richly rewarded was a greatly exciting and memorable shelling adventure, comparable, in my experience, only to a successful golden cowry search. And the bull conch herds of Rongelap are still waiting, virtually undisturbed, for whoever is lucky or adventurous enough to go and find them.



Fig. 1. Twila Bratcher, new member of the Executive Board of the C.O.A. with out-going president, Dick Forbush, at the recent C.O.A. Convention.

## ADVENTURES AT C.O.A.'S 1985 CONVENTION

by MARY ELLEN AKERS

The Philadelphia Shell Club decided to celebrate its 30th birthday in a way true to the spirit of the City of Brotherly Love — it opened its heart to the C.O.A. by hosting our 13th Annual Convention. Our conventions have always been unique in concept and execution, and Philadelphia's event, held June 22-26, was marked by its exceptional charm, vitality and its very personal touches — from the delightful hosts to our fellow conventioners!

As Secretary of the newly-formed Suncoast Conchologists (north Pinellas and Pasco Counties), I arranged to travel with Eleanor Rothoff, President of the St. Petersburg Shell Club, hosts of the 12th Annual Convention, and we were looking forward to our third C.O.A. convention. We dragged out at 4:30 a.m., Saturday, to head for our early morning "milk plane" to Philly, a spectacular sight from descending altitudes. At the terminal, Eleanor struck up a conversation with a delightful couple we'd seen on the plane, and we arranged to cabpool into Philadelphia's historic district to the Holiday Inn. This seemed to be a good omen, as the couple were Dr. Don and Eloise Bosch from Oman and North Carolina; this was only the first friendly gesture we were to enjoy over the next six days. [Several days after returning home, I finally realized that Mrs. Bosch is undoubtedly the "Eloise" of *Acteon eloisae*! Not too swift, eh? I'd even commented about her *Acteon eloisae* pendant she wore at one of the parties; at least I'd had sense, since the name "Bosch" sounded so familiar, to inquire if "Mr." Bosch had ever written articles for H.S.N.! In retrospect, I believe this is a demonstration of what makes C.O.A. such a nifty organization — everyone is so approachable.]

"Wow, Eleanor! Look at the graveyard, with all the ancient tilty tombstones — bet it's really old!" Our room, charmingly decorated with early-American furniture and matching floral print curtains and spreads, was on the 7th floor of the Holiday Inn — Independence Mall, just as predicted, right in the heart of historical Philly, and overlooked what we later discovered to be the Christ Church Cemetery, resting place of Ben and Deborah Franklin and other notables.

We arrived just in time to register and be welcomed with samples of the famous "soft pretzels and mustard," and to make the first of many visits to the special mini-display room, conveniently located near the meeting room. Marsie Chaiken opened the convention as President of the Philadelphia Shell Club, and Frank Roach handled the emcee duties thereafter. One of the cutest welcomes was the unique ink sketch of Ben Franklin on the program booklet cover — sporting on his chapeau a *Xenophora*, PSC's emblem shell, and other conchological goodies! But warmest of all was the friendliness of the PSCers and the C.O.A. members present.

Hank Foglino started the programs expanding his "Oceanography" presentation with fascinating diagrams and statistics. Richie Goldberg got down to the nitty-gritty, or rather slithery-slimey, with "Exotic Land Snails" of unique architecture and unfathomable apertures. Dr. Robert Robertson of the Philadelphia Academy of Natural Sciences topped off the afternoon exploring the "Bahamas and its Marine Mollusks."

Thereafter, a shuttle bus chauffeured us to the Philadelphia Academy of Natural Sciences for the official welcoming Gala Reception, hosted especially by the PSC, which surpassed my wildest expectations! We were free to prowl about the ground floor of the then-closed museum (including the gift shop wherein I capitulated to some tiny geological specimens — no doubt if I had migrated westward, rather than to shell-shocked Florida, I would surely have been a rockhound by now!). Card tables and chairs were set up throughout the taxidermy — magnificent stuffed animals in startlingly realistic natural settings with skillfully painted dioramas. What a setting for the gourmet buffet provided by the Julia Childs of the PSC! No casserole and salad buffet, this! Picture the most scrumptious array of homemade hors d'oeuvres, cheeses, meats, delicacies, punch, desserts, homemade fudge *ad infinitum*. If these gals hire out on the side as caterers, I want first dibs! Later, having met Dr. George Davis of the Academy of Natural Sciences, groups of 20 were escorted to the aeries of the Academy to meet with members of the museum malacological staff, and to have a guided tour of the entire mollusk department, from the entry cataloguing area, through the cabinets, arranged alphabetically, and into the extensive library. It must surely have been like a "homecoming" for R. Tucker Abbott, who was Chairman of the Department of Mollusks at the Academy from 1954 to 1969, and was one of the founding members and past president of the PSC. What a day!

Sunday, I rose early and walked several blocks through the historic neighborhood to church service at an edifice dating from 1734. En route, I discovered a precious 6" owl, sitting in the street near the curb. Squatting, we visited awhile; it seemed uninjured; I determined that if it were still there upon my return, I'd "rescue" it before the traffic got busy; however, that proved unnecessary. Darn!

Most folks were up in time for the morning programs, lured by the thought of numerous doorprizes, given away at tantalizingly predictable times. Bob Lipe began the day sharing his expertise about photographing with flash through the glass of regular and makeshift post-collecting aquaria — a must for recording our mollusk friends when they come out to feed and to flash their bodies! The thought of feeding made us gobble up the Danish supplied at the break — more palatable than molluscan carnivorousism any day! Alta Van Landingham stood in for the sorely missed and absent Kirk Anders, but having accompanied his last two trips to Egypt and the Red Sea, and having acquired some 500 different shell species in the experience, she was well supplied with scenic views and tantalizing examples of the local specimens. Peggy Williams followed with her amazing "Small Wonders," a treat for the mini-enthusiast.

(continued on page 46)

## C.O.A. GRAND TROPHY WINNERS

**Astronaut Trail Shell Club Shell Show, Melbourne, FL., March 30, 31, 1985**

Winners: **Gene and Jo Anne Little, sons Jack and Joe**

Title of display: **Methods of Collecting Shells**

To show that because shells live in different depths of water and in different habitats, that different methods are used to collect these shells. Display included deep water netting, trawling, dredging, SCUBA, snorkeling, beachcombing, tidelines, fresh water collecting, land and tree snail collecting, fossils, and all equipment needed to collect in each of these categories. Length of display — 56 feet.

After serving 30 years in the military, the Gene Little family retired to Melbourne Beach, Florida in 1974. They have been active members of the Astronaut Trail Shell Club since 1975. The family has shelled Panama, Guam, Palau (now Belau), Hawaii, Bahamas, Florida, and fresh water areas in the midwest. The Littles worked together on their exhibit as they have done for the past 9 years. They have held various offices and served on many committees.



Fig. 1. Methods of shell collecting

**The Georgia Shell Show, Atlanta, Georgia, April 12, 13, 14, 1985**

Winners: **Doug and Louise Compton**

Title of display: **"The Queen Conch"**

A life story of *Strombus gigas* Linne, 1758. An exhibit of twenty feet showing the habitat, life cycle from egg through the "samba" stage, a sliced shell with model of the animal, predators, commensals, exploitation by man, and how early man used the shells in their daily lives. Many photos and drawings were used to illustrate.

Three C.O.A. Grand Trophy Awards now hang in the Compton's shell room; they have won the award for the last three years at the Georgia Shell Show. After showing in many shell shows for years without winning an award they feel luck has been with them or they finally learned to do it right!



Fig. 2. The C.O.A. Grand Trophy winner at the Georgia Shell Show in Atlanta, Georgia.

The exhibitors award also went to this exhibit. Doug and Louise spend a lot of time in their shell room sharing the beauty of shells with others, especially giving encouragement to beginners.

**St. Petersburg, FL., Feb. 1985**

Winner: **James E. Cordy**

Title of display: **Self-Collected Marine Mollusks of the Caribbean Province**

A 48 foot exhibit of self-collected marine mollusks of the Caribbean Province.

**Marco Island Shell Show, Marco Island, Florida, March 13-14, 1985**

Winner: **Sue Stephens**

Title of display: **ENDEMIC Australian Muricidae**

6 cases (13') of almost all known endemic *Murex* (lacking 2, perhaps 3?) showing both growth and color forms, 2 extinct fossil forms, and including the rare *Subterynotus tatei* and *Haustellum wilsoni*.

This exhibit has won this year, in addition to the C.O.A. Grand Trophy, 6 blues at the S.W.F.C. show, Sarasota, Naples, St. Petersburg, Sanibel and Marco, plus 'Most Beautiful' at St. Pete, 'Outstanding Exhibit Award' at Sarasota and Southwest Florida Conch Soc. shows, and 'Best Scientific Exhibit Trophy' at Naples. (The exhibit was sub-titled, "1985 — Year of the Big Ban.")

**Sarasota Shell Show, Sarasota, FL, January 25-27, 1985**

Winners: **Marvellen & Olin Bell**

Title of display: **Marine MOLLUSCA — the Animal/Shell/Taxonomy, with specimens of 195 families.**

50 lin. ft. of display, with a short discussion of the shell (its construction & development, ornamentation, color & pattern and periostracum), the animal (its anatomy, radula, operculum, torsion, sexuality, habitat, locomotion, embryogeny, etc). Display includes actual animals, anatomical sketches, photographs, egg cases, etc. and shells of 195 Families.

Marvellen and Olin Bell's interest in shells began in the 1950's with visits to Sanibel, Florida, with their young daughters. They were charter members of the Wilmington, Del. Shell Club. Upon retirement in 1976 they moved to Fort Myers, and joined the S.W. Florida Conchologist Society where their interest in conchology really took off. Olin was Chairman of their 18th Annual Shell Show this January, where they received the DuPont Trophy for the exhibit by judges Dr. Harry Lee and Robert J.L. Wagner. The following week at Sarasota, the exhibit was given the C.O.A. by judges Rus Jensen and Jim Cordy.



Fig. 3. Marvellen & Olin Bell with their C.O.A. Grand Trophy.

### SHELL SHOW CALENDAR

#### OCTOBER:

**The Gulf Coast Shell Club's Fourth Annual Shell Show October 5-6, 1985, Panama City, Florida.**

Contact: Lolita King, Box 323, Bay Point, Panama City, FL 32407

#### Annual West Coast Shell Show

Oct. 12-13, 1985, Santa Barbara, California

(Held in conjunction with the annual gem, mineral, rock and fossil show at the Earl Warren Showgrounds just off Hwy. 101)

Contact: Santa Barbara Malacological Society, Box 30191, Santa Barbara, CA 93130

Show chairpersons are invited to send information about your upcoming shows to the C.O.A. Bulletin's Calendar.

## CALIFORNIA SEASHELLS

### PART X

#### CANCELLARIIDAE

by C. GLASS & R. FOSTER

This interesting family is represented in California by 2 genera and 10 species: 3 species of *Cancellaria* and 7 of *Admete*. Of these, the only one relatively commonly encountered — by diver and collector — is *Cancellaria cooperi* Gabb, 1865. It is an outstanding species, apparently the largest in the genus (in length), the record specimen listed in Wagner & Abbott being 97.2mm, though one hears so far unsubstantiated reports of 125 to 175mm specimens!

Typical specimens of *Cancellaria cooperi* are 50 to 75mm in length, pale orange in color with narrow, slightly raised dark brown bands. The body whorl has about 9 prominent, dark bands and various, intermediate, paler, inconspicuous brown bands. It is also sculptured with about 15 axial ribs, ending with a sharp knob at the shoulder making it coronate. The area above the shoulder is dark grey with more compressed banding. The aperture is white on the columellar lip, pale orange-cream on the outer lip with about a dozen elongated whitish teeth or cords. It is an elegant and attractive shell!

The range is given from Monterey, California, to Baja California. We have encountered specimens in about 65 to 85 ft at Coho Anchorage, west of Santa Barbara, off the southeast side of San Miguel Island, near Horseshoe Kelp Reef out of Los Angeles Harbor off San Pedro, and, most abundantly, at Canby Reef out of Santa Barbara Harbor. We consider ourselves lucky to find one on a dive — 2 or 3 is exceptional. We have grown the species over several months in a cold, salt water aquarium and it was interesting to note that for periods of about a month at a time the animals would stay buried and hidden, emerging only about once a month to forage, so there are undoubtedly many, many more at their various habitats than would ever be seen on any particular dive!

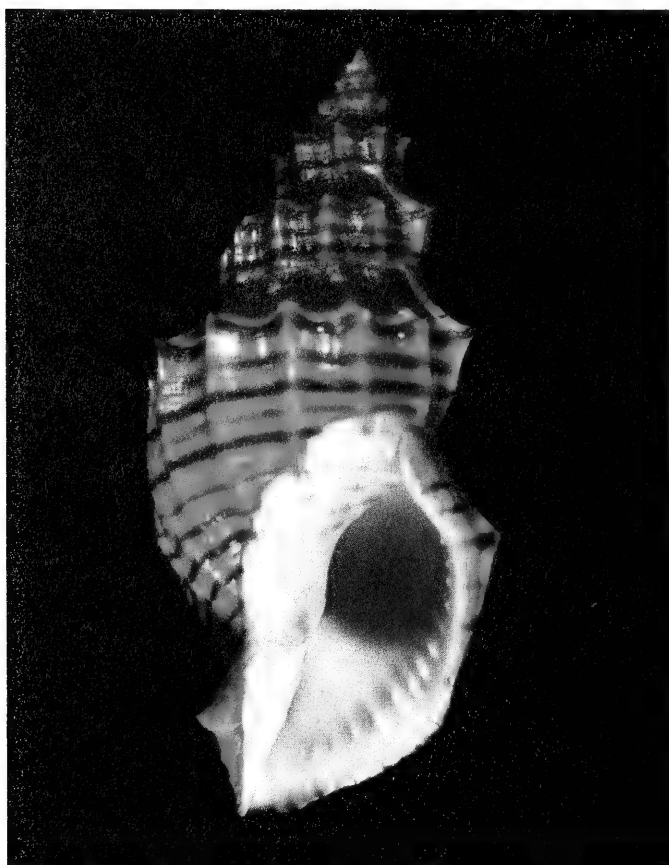


Fig. 1. Apertural view of a 65mm long shell of *Cancellaria cooperi*.



Fig. 2. Dorsal view of the same specimen, collected by Juanita Wulff at Canby Reef out of Santa Barbara, in 65-75 ft. on silt and rubble.

The other 2 species of *Cancellaria* are *C. crawfordiana* (Dall, 1891) from Bodega to San Diego, California, and *C. io* (Dall, 1896), from San Diego to the Gulf of Panama. We are not familiar with the latter species which is cited as 41mm, from 322 to 650fm, and we know *C. crawfordiana* only from 2 shells trawled from 120fm off Santa Barbara and a third trawled in 130fm off Naples Point, Elwood, west of Santa Barbara, in 1974. It is cited as occurring as shallowly as 96 ft. Our shells are 26 to 35mm long, creamy to pale orangish white in color, with a dull tan periostracum, sculptured with numerous axial ribs and spiral cords.

The 7 species of *Admete* are *A. couthouyi* (Jay, 1839) which apparently occurs in both the northern Atlantic and northern Pacific oceans, *A. seftoni* S.S. Berry, 1956 from near Anacapa Island in 46 to 58fm, *A. californica* Dall, 1908, a small, white shell (to 16m) from Alaska to the Gulf of California, *A. gracilior* (Carpenter in Gabb, 1869) from Alaska to San Diego, apparently as shallowly as 60 ft., but here again we have not heard of its having been collected by divers, *A. modesta* (Carpenter, 1865) off San Clemente Island (mostly Alaska to Washington), *A. rhyssa* (Dall, 1919) from Point Pinos, California to Baja California, and *A. woodworthi* (Dall, 1905) from Monterey to the Santa Barbara Channel Islands (60 to 270 ft.). Most species of *Admete* are from very deep, cold water and are rarely seen in collections.

#### REFERENCES:

- Abbott, R. Tucker, 1974. American Seashells, 2nd Edition, Van Nostrand Reinhold.
- McLean, James H., 1969. Marine Shells of Southern California, Los Angeles County Museum of Natural History Science Series 24, Zoology No. 11.
- Wagner, Robert J. L. & R. Tucker Abbott, 1985. World Size Records, Supplement 3, Standard Catalog of Shells, American Malacologists, Inc., Melbourne, FL.



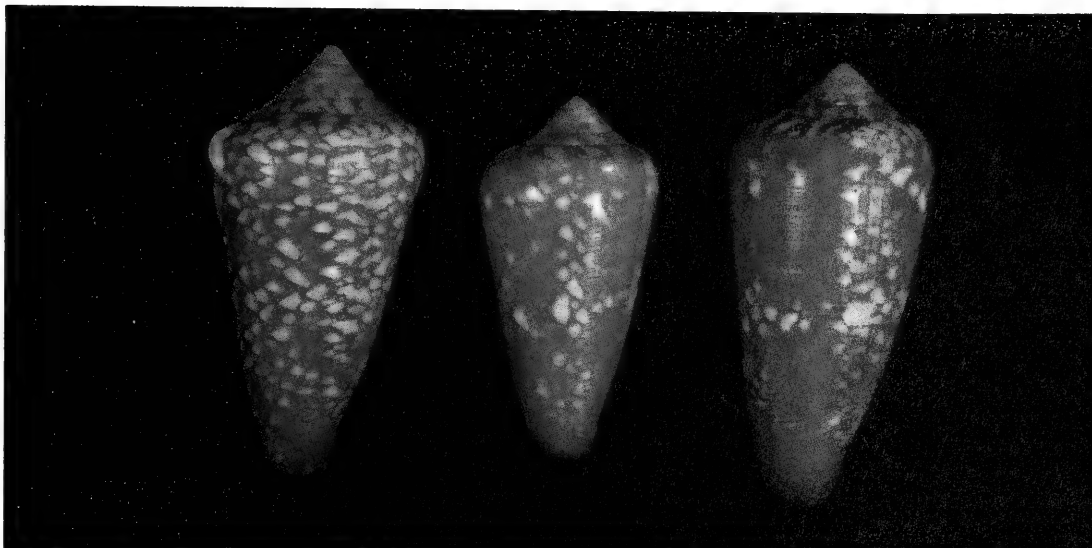


Fig. 1. Three specimens, 49, 42 and 51mm long, of *Conus crocatus* collected by the author at Kwajalein in 1973. Photo Foster & Glass. Fig. 2 (below). Habitat shot of *C. crocatus* at N Buoy, Kwajalein Atoll lagoon. Photo Jim Wedge.

## DIVING FOR CONUS CROCATUS

By JEANETTE HAMMON

One of the most enjoyable aspects of shell collecting at Kwajalein Atoll, is that information on exactly where and how to collect shells, even rare ones, has for the most part been freely passed from sheller to sheller over the past 20 years at this Army test site in the Central Pacific. This contrasts many other areas where good collecting spots and collecting information are tightly kept secrets.

*Conus crocatus* Lamarck, 1811 (listed as *C. colubrinus* Lamarck, 1910 by Walls) is considered a rare shell worldwide but has been collected with some frequency at Kwajalein. It has been found in five lagoon areas, including 4 coral heads (pinnacles). Specimens were collected at a depth of 25 to 40 feet in areas of "pea-sized, brown rubble," approximately two inches thick, with occasional medium sized rocks which if turned and/or the rubble "fanned," reveals a brown silty sand beneath. These areas represent a small portion (approx. 30 X 40 feet) of top and/or side of these pinnacles.

Shells have been collected by "fanning" them out of the rubble, while others were found under the medium sized rocks. Many had a curious algae patch on the top side of their spire indicating they often spent their inactive hours "nose" down in the rubble with their spire exposed. This algae camouflage conceals the exposed spire until a lucky diver "fans" just the right spot to expose the remainder of the shell.

Other species found in these areas and at the same depth are: *Cypraea clandestina*, *fimbriata*, *helvola*, *staphylaea*, *labrolineata*, *talpa* and *limacina* (the latter being quite rare at Kwajalein). In addition, *Euplicea turtina*, *Pyrene flava*, *Stomatella auricula*, *Clanculus atropurpureus* and *Haliotis ovina* are common. Conspicuously absent are other species of cones. A small (20mm) species of sea cucumber, greenish in color, exists by the hundreds under the same rocks and in the rubble.

N Buoy coral head contained the largest population of *Conus crocatus* at Kwajalein during the years which I have information on: 1968 through 1983. Rising from a 90' lagoon bottom, it is a well marked and extremely convenient coral pinnacle to dive on but quite attractive as compared to other coral heads in the area. Thus, few people other than those seeking *Conus crocatus* dive on N Buoy during the day.

Approximately six mature (40-50mm) specimens were collected at N Buoy in 1972 and at least a dozen in 1973 including the Kwaj record specimen measuring 59.15mm. During the following years, fewer and fewer adult shells were found. In 1981 a "bloom" of at least 30 young shells appeared, measuring approximately 25mm. The temptation to collect them proved too great for several divers



and even though the pinnacle has been thoroughly searched many times each year since that time, *Conus crocatus* has not been found.

Although the population on N Buoy was greatly reduced, it is doubtful that *Conus crocatus* has been totally eliminated. The many divers who found this prize over the years were indeed fortunate to have had such a large population at such a convenient diving location. New divers in Kwajalein will have to look a little longer and harder at the more distant areas for this beautiful and unusual colored cone.



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A lengthy lunch break afforded the opportunity for one of the historic walks offered, led by PSC member, Bess Naide. In a matter of an hour, we scoured the local district and saw the first banks, Franklin Court, Friends Meeting House, the Visitor Center, etc. Most fascinating was Christ Church. Its service had just concluded, and the strains of the ancient organ vibrated through the courtyard — only those old organs, with all the stops pulled out, seem to have that goosepimp effect on the listener. A recent college graduate, a history major who does this for pure enjoyment, proceeded to give us an impromptu mini-tour: important personages were buried beneath the church aisles until the cemetery was established; clear-paneled windows, as in the old days, are replacing the 19th century stained glass windows, returning the classic appearance; the original candle chandelier is still lowered from the ceiling of the nave to be lit for special occasions, such as weddings; some of the original pew boxes remain, marked with plaques indicating which belonged to the Washingtons and which belonged to the Franklins; Great Britain presented to Christ Church the baptismal font used in the christening of William Penn years before he migrated: interesting tidbits!

In later excursions Eleanor and I found Betsy Ross' house (the family business was upholstery, and when the flooring was replaced years ago, the workmen found thimbles underneath the wooden boards — what fun to speculate if they might have been the flagmaker's!) — and Independence Hall and the Liberty Bell Pavilion. And, of course, there was Shane's candy shoppe — we almost had excess baggage en route home; and there was the delightful eatery where we indulged in the most eye-appealing and tummy-gorging Seafood Alfredo!

Back at the meetings, R. Tucker Abbott and Gary Rosenberg led a workshop on "Identification of Shells," followed by Gary's additional intriguing program exploring the vagaries of "Operculums."

Plenty of time was allotted for the perusal of auction items, which, though primarily specimen shells, included a display case and artwork. veteran punster and auctioneer Charlie Hertweck was recuperating in Florida, so Marty Gill was prevailed upon to serve as auctioneer. No one could have been better suited — wow, did he move those bids upwards — and quickly! The poor fellow was parched by the evening's end; but the proceeds netted around \$2,500 for C.O.A.! [A list of door prize and auction contributors may be found elsewhere in this issue.]

Monday morning found us pouring over the shells, stamps, coins, cabinets, and artwork offered by nearly 30 dealers at "The Bourse." The room, as last year, could be locked and as a result, displays were well-arranged. A number of dealers were present who had not been represented in recent years, and the variety of offerings was exciting.

Russ Jensen, Assistant Curator of Mollusks at the Delaware Museum of Natural History, began the afternoon programs with "Shelling in Bermuda," making us all wish we were crabbers and dredgers. Richie Goldberg had the honor of presenting the Long Island Shell Club's slide-with-cassette-tape-narration program on "Shelling on Long Island." This program, produced by that club, is available for loan to other clubs and organizations; contact the club itself for further details. During the afternoon break, the Philadelphia Shell Club treated us to cakes celebrating its 30th birthday. The C.O.A. business meeting followed, and, as has been customary, was short and sweet. New officers were elected as follows:

President, Anne Joffe  
Vice-President, Richard Goldberg  
Secretary, Peggy Williams  
Treasurer, Walter Sage.

Clair Stahl passed on the treasurer's books after seven years, as he is retiring and intends to travel the country by motor home for the next year — bon voyage, Clair! The C.O.A. also presented a financial grant to the Long Island Shell Club to assist in the publishing of its monograph on the mollusks of Long Island. And, very exciting to the officers was the fact that at least three shell clubs were vying to have the C.O.A. for next year's convention — especially nice since no west coast organization was able to extend

an invitation as hoped. After much hand-wringing, Broward Shell Club in Fort Lauderdale, Florida, was chosen to host our 1986 convention, and the Greater St. Louis Shell Club will do the honors in 1987.

A different type program began the Tuesday morning session. Ruth Abramson broadened our perspectives with "Shells on Coins and Stamps." Dr. Virginia Maes of the Philadelphia Academy of Natural Sciences dealt with "Shells Close Up and Inside," presenting fascinating electron-microscopic views of the calcification layers of pearly bivalves. And Phil Clover wound up the programs with a presentation on "West Africa and Senegal," an area gaining in shelling popularity. The afternoon hours were filled with the second session of the Dealers' Bourse, with folks continuing to consult their "want and available" lists and planning their strategy.

Around suppertime, the shuttle bus provided transportation to the Ballroom of the Philadelphia Academy of Music, home of the Philadelphia Orchestra, the Philadelphia Pops, and the Pennsylvania Ballet. The white room was huge, with gold-leaf designs and fine plaster work on the ceiling, and the walls were entirely mirrored. A cocktail hour with tuxedoed waiters serving scrumptious hors d'oeuvres preceded the grand finale banquet, a magnificent catered affair. Attractive lucite keyrings, with etched shells or sealife designs, were party favors. Shortly after dinner, the doors opened and in marched a Mummer Band: 32 strong, with xylophone, drums, accordions, saxophones, and banjos, and with each mummer garbed to the hilt in flamboyant white, blue and silver outfits! And what a program they presented! Everyone was clapping and singing along with the happy music. The band captain then continued his mummer's "strut" around the ballroom, gathering a few "volunteers" as he went, and then he proceeded to place his fantastic headdress on Bob Lipe, who strutted awhile and then crowned Cecilia Abbott and finally Tucker Abbott; it was quite a conga — er, strutter line! Elaine McDonald, a PSC member, is also a member of this particular mummer band, the Juniata Band, and she and her husband-member (the band's music director) were "instrumental" in opening these wonderful Philadelphia bands to women; the band appeared out of courtesy and tribute to Elaine. What a thrill to see one of these bands in person! [I was so surprised that the airport shops didn't have any records of these internationally famous groups — sigh.]

But more was scheduled for the evening: the head table was introduced and Marsie Chaiken, as PSC president, introduced all PSC members present who had chaired the various convention committees — what a great crew — and very deserving of the accolades they received. Anne Joffe, as incoming president of C.O.A., introduced her fellow officers and announced the continuation of Bob Foster and Charlie Glass as Editors of this *Bulletin*, and others who will serve the C.O.A. in the year ahead.

The banquet speaker was Dr. Thomas Waller of the Smithsonian, who expounded on pectens, including the most enlightening diagram, combining the usual characteristics of the bivalve: e.g., the record growth lines (45 r.p.m.), by byssus (with anchor attached), and, of course, the foot (with five toes)! Lots of factual information was given, too.

Wednesday brought still more adventures, with our last "have at" the Dealers' Bourse — final decisions on some unique acquisitions *had* to be made. Then Eleanor and I taxied with Glen and Marion Deuel of Huntsville, Alabama, to Penn's Landing for a rendezvous with "The Spirit of Philadelphia" for a pleasant luncheon-cruise down the Delaware River to Schuylkill River. The waiters and waitresses provided vivacious vocal entertainment on the trip back up-river. There, Dr. Meyer Naide and Bess took mercy on Anne Joffe and myself — though already chauffeuring two Texas gals, they generously added us as passengers in their auto and transported us all to the Philadelphia Museum of Art. A large retrospective showing of paintings by Marc Chagall was gathered for this Philadelphia-only show, and as a former high school art teacher, I couldn't resist the opportunity to see it; but oh, how I would have loved to have had another several days to prowl the other galleries at the Museum!

By Thursday morning, many folks had left to return home, but Eleanor and I had arranged to extend our trip one more day — tempted by the invitation of the Wilmington Shell Club to explore the hallowed Delaware Museum of Natural Sciences. The problem: how to get there and yet get back to Philly Airport for our evening flight home? We were desperate — and too “chicken” to tackle auto rentals and strange interstates. Enter the hero: Gary Rosenberg, the “Operculum” speaker, who offered chauffeuring services. Gary’s a doctoral candidate at Harvard, in malacology, concentrating his research on family *Ovulidae*. He had worked some seven summers at the Philadelphia Academy of Natural Sciences, commuting from New Jersey, and as a youth had attended the Wilmington Shell Club meetings. He was looking forward to devouring the Museum’s collection of ovulae and brought along his excellent photography equipment to document specimens. Gary fitted Bill and Janet Paddison of Birmingham, Michigan, and Eleanor and me, and our luggage, and his camera gear into his family’s auto and drove us the hour ride through scenic country to Wilmington, Delaware. Albert and Doreen Chadwick and other hospitable folks from the Wilmington Shell Club had arranged for open house at the Delaware Museum of Natural Sciences, with guided tours, again to the upper sanctums, for mini—groups. Second in size only to the Smithsonian’s malacological treasure-trove, the Delaware Museum’s collection began in 1971 with less than 100,000 shells donated by John DuPont; the collection now numbers over 1,690,000 specimens, plus a museum full of delightful natural history collections. I developed a big crush on a handsome Gerenuk which had its head and neck poked through the wall! But the shells were what we came to see, from the spectacular displays in the main museum area, to the personally guided tours by Russ Jensen and Dr. Barbara Butler through the computerized cataloguing area, to a re-view of many of Neil Helper’s exquisite displays, and ultimately to the mammoth shell storage area, the size of a football field, with its hundreds of locked steel cabinets containing vast conchological treasures. Interestingly, fossils of the species were intermingled with the modern-day species. Holotypes were removed and stored in special safes; pink-labelled empty boxes indicated their removal, while yellow-labelled boxes indicated species not yet acquired. Imagine our excitement later in the day when

Al Chadwick, who had the “keys to the kingdom,” said to us, “Okay, which cabinets would you like me to open?” We certainly couldn’t bear to hurt his feelings! He also pointed out that museums don’t need “perfect” specimens, though, of course, they are wonderful to possess; they really need good representative specimens, and flaws are well tolerated.

Soon it was mid-afternoon, and Gary kindly drove us back to the Philadelphia airport, in time for the Paddison’s afternoon flight and our evening flight home (I hit the sack at 3:00 a.m.!). Nothing could have been more convenient for us — and it was the end of a perfect six days at the C.O.A. ’85 — the Delaware Museum was the icing on the cake.

There you have it — another superb convention, attended by over 150 enthusiasts from over 22 states, Canada, Bermuda, Panama and Oman; and filled with great programs and lots of fun; and with an abundance of friendly, gracious and generous Philadelphians and guests — the perfect combination! Bravo, Philly — and thanks from C.O.A. and from each of us fortunate to spend those days with you. Congratulations!

1244 Edenville Ave., Clearwater, FL 33546

## SPOTLIGHT ON COLLECTORS

by DAVID DeLUCIA

7 Sunset Hill Dr., Branford, CT 06405

**Peter Steelman, Mystic, Ct.**

I’d like to inaugurate this column by discussing the superb shell collection of Peter Steelman of Mystic, Connecticut, a doctor of veterinary medicine. Pete has been collecting for eight years, after he was bitten by the shell bug while poking through a collector’s shop in California. He likes three genera in particular: *Cypraea*, because of their beauty, *Conus*, because of their diversity, and *Xenophora*, because they’re so *very* different. Within these groups, he has practically every valid species, even such rarities as *Cypraea hiraset* and *Xenophora gigantea*.

Among the highlights of Pete’s collection are a magnificent, dark *Cypraea jeaniana*, a huge (5”) *Conus gloriamaris*, and a marvelously symmetrical *Xenophora pallidula* (see photographs). Most of the shells are kept in shallow drawers in cabinets, but a few of the larger and choice specimens are in glass fronted cabinets. Pete notes that he has not seen any appreciable decrease in color or brightness of these shells. His other hobbies include photography, diving, and (brace yourself) skull collecting. Pete’s assemblage of over 275 bird and animal skulls is one of the most amazing things I’ve ever seen, a nice foil to the shells!

When asked “What is the one best thing and the one worst thing about shell collecting?”, Pete replied, “The best things are the interesting people I have met who are collectors, and the enjoyment I derive from seeing nature’s diversity. The worst thing about my collection is that I have not been able to do any personal collecting of my three favorite genera due to geographical limitations, but I plan to do so in the future.”

Those of you who happen to be in southeastern Connecticut are urged to look Pete up. You’ll be able to see myriads of shells, skulls, and animals (Pete has 8 dogs alone!), as well as being able to meet one of the C.O.A.’s most fascinating members!

### BATTERIES NOT INCLUDED

A California shell dealer noticed a customer holding a large shell to his ear. As he approached, the fellow remarked that he really could hear the ocean in the shell. The dealer jokingly replied, “Well, yes, until the batteries run down.” The customer examined the shell for a bit and then, in all seriousness asked where one is supposed to insert the batteries!

### AUCTION and DOOR PRIZE CONTRIBUTORS

Alta Van Landingham — The Shell Shop, Hampstead, NC  
 Marty Gill — Shamaron Shells, Brooklyn, NY  
 George W. Weitalauf — Largo, FL  
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A special Thank You to the C.O.A. members, shell dealers and friends who so generously contributed to this year’s auction and door prizes. We urge our members to patronize these dealers. Contributors listed are those with donations received as of June 1, 1985.

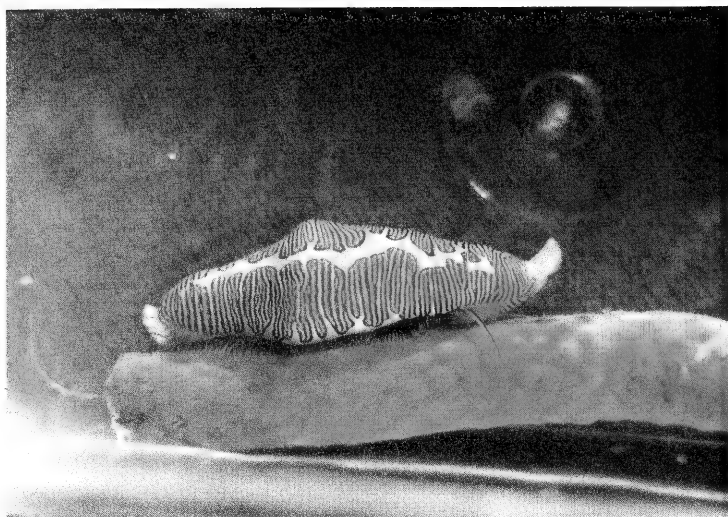


Fig. 1. *Cyphoma signatum* live, with mantle up, taken from sea fan. Fig. 2 (right). *Cyphoma gibbosa* live, with mantle up, on sea fan at E. Dry Rocks. 5/81.

## SHELLS LIVE IN THE DARNEDEST PLACES!

by PEGGY WILLIAMS

The newest shellers begin looking on the beach for dead shells. Those who continue shelling with serious interest soon learn to look for the living mollusks in their natural habitats, some in sand and some on and under rocks. Some shells are found living, however, in rather unusual habitats, depending on their lifestyle and food preferences.

The "Flamingo Tongue," *Cyphoma gibbosum*, is a case in point. Many shell collectors are aware that this mollusk is found on sea fans in tropical Caribbean waters. Sea fans are soft corals which the shell eats. The mantles of this animal and its relatives are very colorful and often contrast strikingly with their host corals, which may be purple or yellow. There are six or seven species of *Cyphoma* in the Caribbean and other similar cowry relatives in the Pacific.

Similar to *Cyphoma* are the species of *Simnia* in the Caribbean. These pink and purple-colored shells live on similarly-colored soft corals such as "sea whips" and sea fans. They blend so well with their hosts that the sheller has to look very hard to find the lump attached to and aligned with the longitudinal axis of the corals. The mantles are lacy-looking with white papillae that resemble the coral polyps they live on. The first live ones I found were accidentally collected when I brought up a sea whip for my aquarium and found the *simnia* in the bucket later!

Sea anemones, those lovely but voracious flowers of the sea, are host to a wide variety of parasitic Epitoniidae. The mollusks can be found around the base of the anemones — sometimes buried in the sand which can be fanned away. The anemone will be attached to the hard substrate and the shell often right beside it. The often pure-white shells are well camouflaged in this habitat.

Another unlikely and unwilling host to mollusks is the "sea cucumber," or holothurian. This soft-bodied echinoderm has the ability to eviscerate, that is, eject its inner organs, when disturbed, and will do so when disturbed. Eulimid mollusks, very smooth, shiny conical shells, are found on one end of the sea cucumber, often several on one host. They, too, are parasitic. The shells themselves are interesting, though hard to identify — many of them have a spire that bends or leans to one side.

Another echinoderm provides an even more unusual habitat for a mollusk. I have found *Mucronalia nidorum* living in the spines of the Caribbean club-spined sea urchin. The mollusk creates a boll in the thick spine of its host and spends its life there — in fact, has a family there! I have found as many as four of the tiny shells in one boll.

Finding these shells provides a challenge to even the most experienced sheller and proves that shells live in the darnedest places!



Fig. 3. *Mucronalia* on sea urchin, Boca Raton, 9/84.

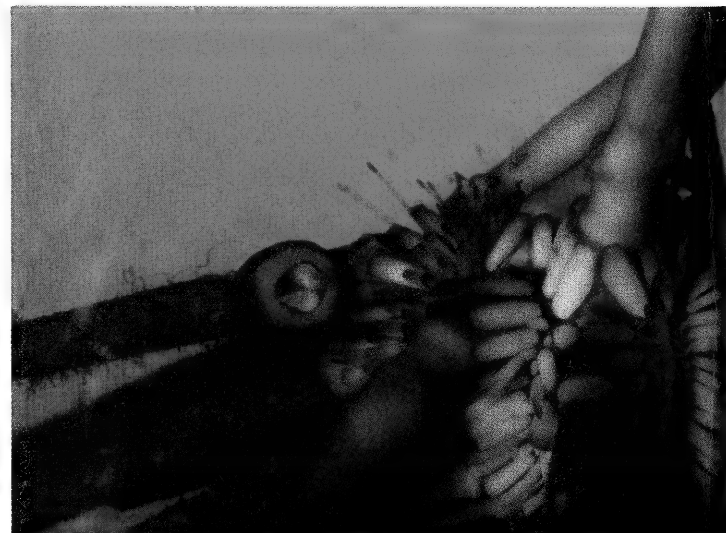


Fig. 4. *Mucronalia nidorum* in sea urchin spine, Bonaire.

## HELPFUL HINTS FOR COLLECTORS

by Minicyp

### Rules of Scientific Nomenclature

1. Scientific names are always Latin or latinized.
2. Genus and subgenus names and specific and subspecific names are always single words.
3. Hyphen, diacritic marks, apostrophes, capital letters (such as McCoy) are not used in scientific names.
4. The initial letter of genus and subgenus names are always capitalized.
5. The initial letter of specific and subspecific names are *never* capitalized.
6. Genus and subgenus names and specific and subspecific names are always printed (or written) in a typeface (or writing) different from the text (preferably in italics). Underlining of the species name is frequently used although not in conformance with the recommendation of the Code.
7. Specific names must agree in gender with the generic name with which it is coupled in the binomen species name.  
Note: If the genus name is changed the spelling of the specific may change to conform with this rule.
8. The subspecific name need not agree in gender with the generic name.
9. The subgeneric name is always enclosed in parenthesis.
10. The specific or subspecific name can never stand alone.
11. No name subordinate to the subspecific name (ie. variety, form, aberration, hybrid, race, etc.) should be part of the scientific name. The Code does not recognize taxa subordinate to subspecies.  
Note: Such names should be printed (or written) in text typeface. For example: "form spinosus" or "variety elongata".
12. General form  
Genus *Xus*  
Subgenus *Yus*  
Species *Xus albus* or *Xus (Yus) albus*  
Subspecies *Xus albus pallidus* or *Xus (Yus) albus pallidus*  
Note: The generic name as part of the species or subspecies name may be abbreviated after its first use in any presentation. The specific or subspecific name should never be abbreviated.

### Rules for use of Author's Name

1. Only the author's surname should be used.  
Note: Application of this rule can make citation of the author's name virtually useless where there are several authors with the same surname as for example Sowerby or Adams. Many writers use initials or other means to identify authors with the same surname.
2. Author's names should not be abbreviated.  
Note: Failure to follow this rule can lead to confusion where the abbreviation of several different author's surnames are the same. However, for reasons of space, this rule is sometimes violated.
3. The author's name should be printed (or written) in the same typeface (or writing) as the text. The printing (or writing) of the author's name should be clearly different from the printing (or writing) used for the species name.
4. In any presentation, once the author's name is cited with the species name it need not be repeated with each use of the species name.
5. The author's name used should be the same as the author used for the publication in which the description was published.  
Note: The most common exception to this guideline is the use of Linné where Linnaeus should be used.

### Conventions of Author Citation

The name of the author does not form part of the name of the species and its citation is optional.

*Xus albus* Keller: No punctuation should be used between the species name and the author's name.

*Yus albus* (Keller): Indicates the original genus to which the species was associated by Keller has been changed.

*Yus albus* (Keller) Smith: Indicates that Smith has associated the species named by Keller to a new genus.

*Xus albus* Keller in Smith: Indicates that species *Xus albus* has been described by Keller in a publication authored by Smith.

*Xus albus*: Brown

*Xus albus* Keller sensu Brown

Indicates a reference to *Xus albus* Keller by Brown, or as used in Brown.

*Xus albus* Keller, partum Smith: Indicates the original species described by Keller has been subdivided by Smith.

*Xus albus* [Keller]: Indicates that Keller originally published anonymously but his identity as author was later established.

*Xus albus* anonymous

Indicates that the original description was published anonymously. This is an acceptable citation if the description was published before 1951.

*Xus albus* Keller and Smith

Indicates that the original description was authored by both Keller and Smith. Citations of this type are sometimes suspect.

*Xus albus albus* Keller: Indicates that *Xus albus* Keller is the nominate subspecies of subspecies of *Xus albus* Keller.

*Xus albus pallidus* Smith

Indicates a subspecies of *Xus albus* Keller described by Smith.

### Conventions of Date Citations

*Xus albus* Keller, 1975

Indicates the date was clearly associated with the original publication.

*Xus albus* Keller (1975): Indicates the date was inferred from the original publication – subjective inference is not acceptable.

*Xus albus* Keller [1975]: Indicates the date was objectively determined from sources other than the original publication.

*Xus albus* (Keller, 1975): As (Keller) under author's name.

### Abbreviations, Jargon and Type Definitions

nomen conservandum: a name conserved by the ICZN

nomen dubium (nom. dub.): a name not certainly applicable

nomen novum (nom. nov., n.n.): a name (new) proposed as a replacement name

nomen nudum (nom. nud., n.n.): a name that fails to satisfy the technical rules for availability

nomen oblitum: a name unused for 50 years

sensu lato: in the broad sense

sensu stricto (s. str., s.s.): in the strict sense

ssp.: subspecies

sp. indet.: undetermined species

emend.: emended or emendation

homonyms: the same name or epithet applied to a different genus or species than the subject genus or species

synonyms: different names or epithets applies to a given genus or species

holotype\*: original single specimen selected as the "type specimen" of a species at the time of original publication

paratype: every specimen in an original type series other than the holotype

allotype\*\*: first paratype of the opposite sex to the holotype

lectotype\*: a single specimen of the syntypes designated as the "type specimen" after the original publication

syntype: all specimens of the type series (or lot) if the author did not designate a holotype

paralectotype: the remaining specimens of the type series (syntypes) after the lectotype has been designated

neotype\*: single specimen designated as the "type specimen" if all other specimens eligible to be designated as a "type specimen" are lost or destroyed

\* only specimen which surely belongs to the species it typifies

\*\* not defined in the Code

The reason for the above type definitions is that each species today must have a single "type specimen".

The subject of the next article in this series will be on housing a collection. If you have any subject which you would like to see covered in this series or any comments on the material which has appeared please write.

R.H. Jones

1432 Dorsh Rd., South Euclid, Ohio 44121

### REFERENCES:

Blackwelder, R.W. International Code of Zoological Nomenclature Taxonomy



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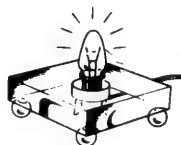
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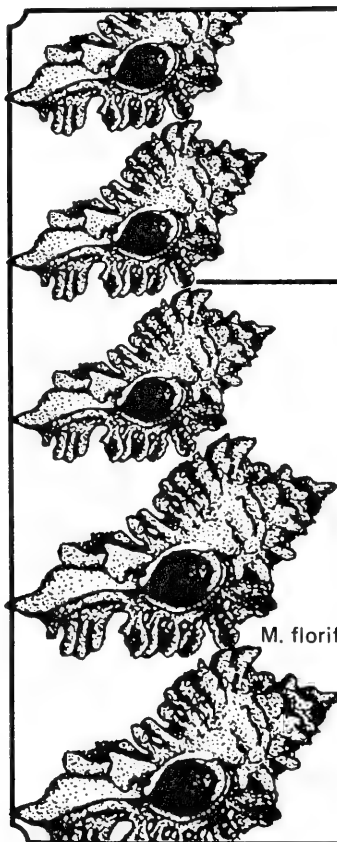
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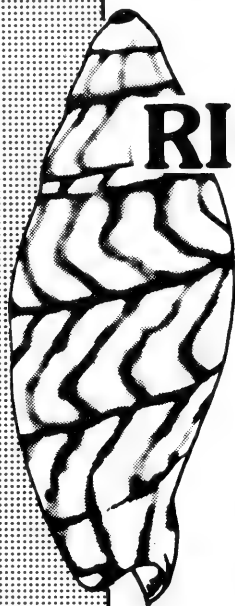
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# CONCHOLOGISTS OF AMERICA BULLETIN

VOL. 13, NO. 4

DECEMBER, 1985





In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors. Thus, CONCHOLOGISTS OF AMERICA, INC. was formed — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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COVER PLATE: We are pleased to offer another of the fine works of Florida artist, Mathilde Duffy, this one a pencil sketch of (left) *Lambis scorpius*, (upper right) *Lambis robusta* and (lower right) *Lambis crocata pilsbryi*.

#### KIRK ANDERS, 1945-1985

C.O.A. members are shocked and saddened to learn of the untimely death of Kirk Anders, co-founder and 2nd president of the organization. Kirk was well known to C.O.A. conventioners and to patrons of his Fort Lauderdale based "Shells of the Seas" and "Kirk Anders Travel". Kirk died, after a relatively short illness, on October 1st, 1985. In accordance with his wishes, he was cremated and his ashes scattered in the Gulf Stream off Florida.

#### PRESIDENT'S MESSAGE

by ANN JOFFE

Another successful annual convention is over, and this was certainly a wonderful one. I would like to again thank all the hard working members of the Philadelphia Shell Club for making this years meeting so memorable.

There is another thing that C.O.A. has done this year to make it an even more memorable one. For the first time since we became an organization, we have given money to a worthy cause. In the spring issue of this bulletin, it was noted that any persons seeking funding for worthwhile shell related projects, notify the board of directors of the C.O.A. I am pleased to say that we received four requests for money. The board met, and after weighing out all the facts, voted to give donations of \$1,000.00 to two of the requestors.

(continued on page 67)

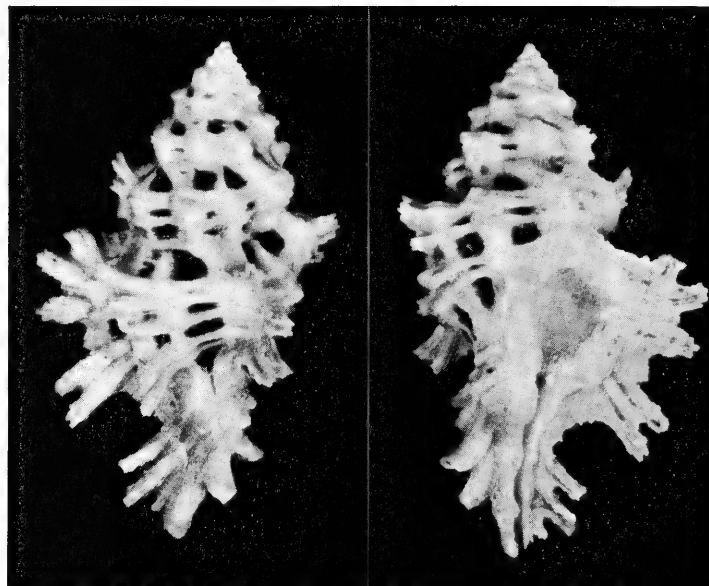


Fig. 1, a & b. *Murex martinetana*. a. dorsal and b. apertural views of 51mm specimen coll. May 20th, 1985 by Ronald Moylan on rocky reef in 70-80ft at Picot Bay, Hiu or North Island in Torres Group, Vanuatu (AbS 85-519 in the Foster & Glass collection).

## AN UNSUCCESSFUL SEARCH FOR THE RADULA OF MUREX MARTINETANA (RÖDING, 1798): (NEOGASTROPODA)

by ANTHONY D'ATTILIO & BARBARA W. MYERS

Department of Marine Invertebrates, San Diego Natural History Museum, P.O. Box 1390, San Diego, California 92112

*Murex martinetana* (Röding, 1798) is a muricid widely distributed throughout the Indo-Pacific, although not common in any one area. D'Attilio and Hertz (1984) had difficulty generically placing this species and used the genus *Marchia* Jousseaume, 1880 with reservations, commenting on the fact that the radula had never been studied and the difficulty in obtaining a live collected specimen. They illustrated several varieties or forms and gave the distribution for each form.

Through the courtesy of several friends, we obtained seven live collected specimens of *Murex martinetana*. Charles Glass and Robert Foster of Santa Barbara, California, sent us four specimens, two specimens from the Philippine Islands, one from the Gulf of Aqaba, Red Sea, and one from Vanuatu (New Hebrides). Lori Bell Colin of New Guinea brought one specimen to us that she had collected April 5th, 1985 at Papua under dead *Acropora* sp. Philip Bellin of Okinawa, Japan, sent us two specimens that he had collected in Okinawa.

Careful examination and dissection of all seven specimens failed to locate a radula. It was noted that the protrusible proboscis was extremely long in all specimens and in one specimen, the shell of which measured 51mm (fig. 1), the proboscis was 27mm long.

The majority of the families and species in the Mollusca do possess a radula. It is one of the unique characteristics of this Phylum. However, there are exceptions to every rule and in the Mollusca there are several exceptions. For instance, in the Class Bivalvia there is no radula. In the Class Gastropoda most species do possess a radula, but here and there throughout this Class, there

(continued on page 70)

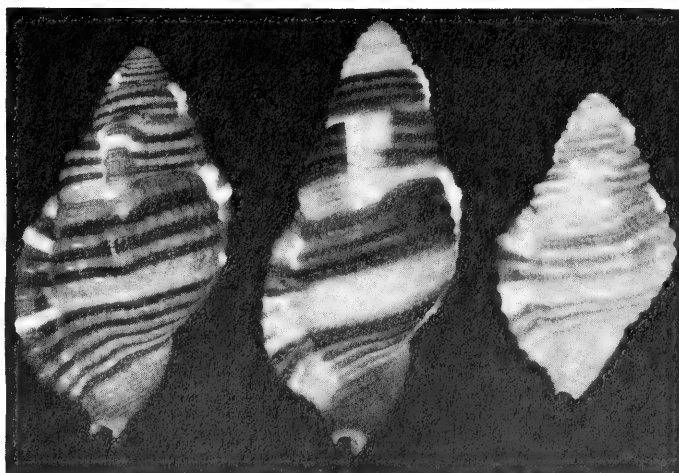
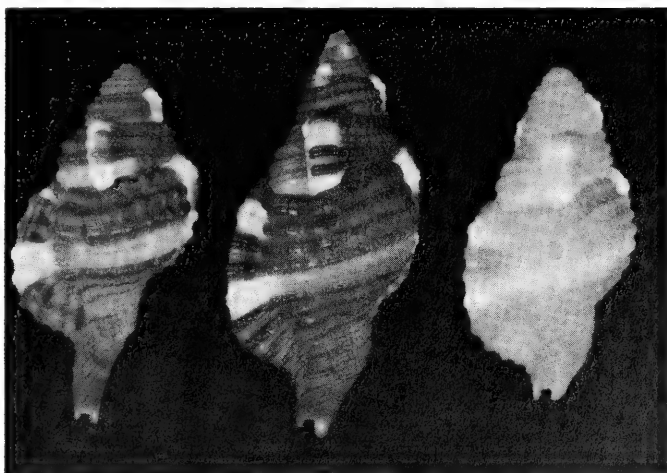


Fig. 1 (left). Left to right: *Cymatium (Septa)* sp. nov. from the Philippines, a 42mm specimen (AbS 85-554); *C. rubeculum rubeculum* (Linné, 1758), a 47.4mm specimen from the Marshall Islands (AbS 82-1819); and an orange form of *C. rubeculum rubeculum* from Bohol, Philippines (38.7mm; AbS 85-613). Fig. 2 (right). Left to right: *Cymatium (Septa) hepaticum* Röding, 1798, a 50.5mm specimen from Cebu, Philippines (AbS 80-2423); and *C. occidentale* (Mörch, 1877), a 36.7mm specimen from Oahu, Hawaii (AbS 82-1225).

## A CLASSIFICATION AND CATALOGUE OF LIVING WORLD RANELLIDAE (=CYMATIIDAE) AND BURSIDAE

by A. G. BEU  
New Zealand Geological Survey

This is a list of all the living genera, subgenera, species and subspecies known to me in the two families, Ranellidae (=Cymatiidae) and Bursidae. The list includes 154 species and subspecies of Ranellidae and 63 of Bursidae, and attempts to show their relationship as clearly as is possible in Linnaean nomenclature. It is a summary of 18 years' work on these two families and was compiled very critically, that is, I have used the very earliest available name in all cases, listed a few of the main synonyms that collectors may be familiar with, thought carefully about their generic and subgeneric relationships, and carefully evaluated all named varietal forms (many of which have turned out to be "good" species). So this represents what I think are the *correct, ultimate* names to be used for all living species in these families.

Perhaps the most obvious point of nomenclature you will note is the change of name of the family from Cymatiidae to Ranellidae. The Code of Zoological Nomenclature says the family names have their own priority, and you must use the earliest available one, so we have to use Ranellidae, as it was proposed 58 years before Cymatiidae. Walter Cernohorsky and I have made an unsuccessful attempt to have the name Cymatiidae conserved by the International Commission on Zoological Nomenclature, and there is nothing we can do now but get used to the new name as quickly as possible.

Taxa treated as subspecies below are thought to be geographically isolated populations of the one genetic species, that is, they are geographic subspecies in the sense that was originally used for birds by Professor Ernst Mayr of Harvard University. The term "subspecies" has often been used in malacology for varieties occurring together in one population, but such parts of the variation of one population are not recognized by the Code of Zoological Nomenclature. Varieties are recognized by the existence of a range of variation between one extreme of the population and the other extreme. The converse—forms that occur together but do *not* show a range of morphologically intermediate specimens—is good evidence that the co-occurring forms are separate species, and that is particularly convincing evidence when the co-occurring forms have partially different geographic ranges. A good example in the list below is the subgenus *Cymatium (Septa)*, which, until recently, I thought contained only one species, *C.*

*rubeculum* (Linné). Study of very large populations has shown that "the Atlantic form", *C. occidentale* (Mörch), a finely sculptured, pale yellow-brown form, occurs in the Indo-West Pacific alongside the red *C. rubeculum* and the striped *C. hepaticum* (Röding), the latter two of which are absent from Atlantic faunas. No morphological or color intermediates are known, so it is clear that these are 3 distinct species. Another obvious example is *C. aquatile* (Reeve), which, until recently, has been thought part of the variation of *C. pileare* (Linne). However, it is now clear that *C. pileare* does *not* occur in the Atlantic, but is represented there by the distinct species *C. martinianum* (d'Orbigny), and as *C. aquatile* occurs in both the Indo-West Pacific and Atlantic, and a close examination of large collections shows no morphological intermediates, these are now regarded as three distinct species.

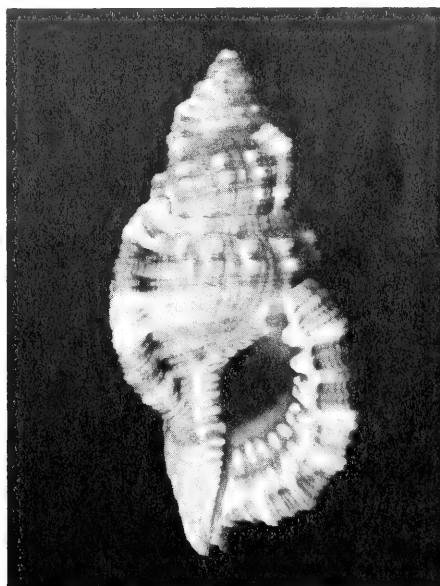


Fig. 3. *Cymatium (Monoplex) aquatile* (Reeve, 1844), a 96.5mm specimen from Siasi, Sulu, Philippines (AbS 81-3191).

# CRITICAL LIST OF LIVING WORLD RANELLIDAE AND BURSIDAE

## Family **RANELLIDAE** Gray, 1854 (= *Cymatiidae* Iredale, 1913)

### Subfamily **RANELLINAE** Gray, 1854

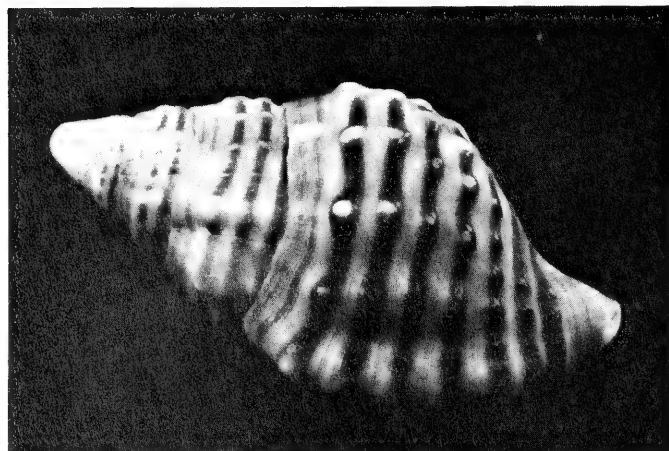


Fig. 4. *Argobuccinum* (*Argobuccinum*) *pustulosum* (Lightfoot, 1786), a 59mm specimen from Jeffreys Bay, South Africa (AbS 74-3251).

Genus ***Argobuccinum*** Herrmannsen, 1846  
Subgenus ***Argobuccinum*** Herrmannsen, 1846  
(= *Gondwanula* Finlay, 1927; = *Mediargo* Terry, 1968)  
***Argobuccinum* (*Argobuccinum*) *proditor proditor*** (Frauenfeld, 1865), St. Paul & Amsterdam Is., S. Indian Oc.  
***proditor tristanense*** Dell, 1964, Tritan de Cunha & Nightingale I., S. Atlantic  
***pustulosum pustulosum*** (Lightfoot, 1786), S. Africa  
***pustulosum ranelliforme*** (King, 1832), S. America  
***pustulosum tumidum*** (Dunker, 1862), S.W. Pacific

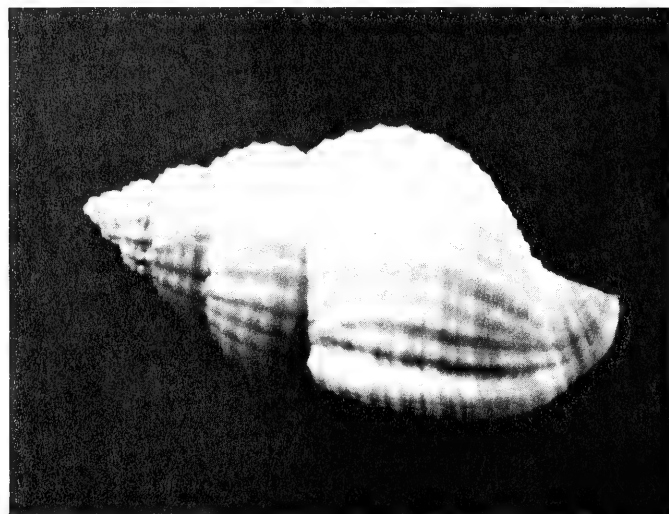


Fig. 5. *Argobuccinum* (*Priene*) *scabrum* (King, 1832), a 45mm specimen from Coquimbo, Chile (AbS 81-3178).

Subgenus ***Priene*** H. & A. Adams, 1858  
(= *Liohindsia* Coen, 1947)  
***Argobuccinum* (*Priene*) *scabrum*** (King, 1832) (= *rude* Broderip), Chile

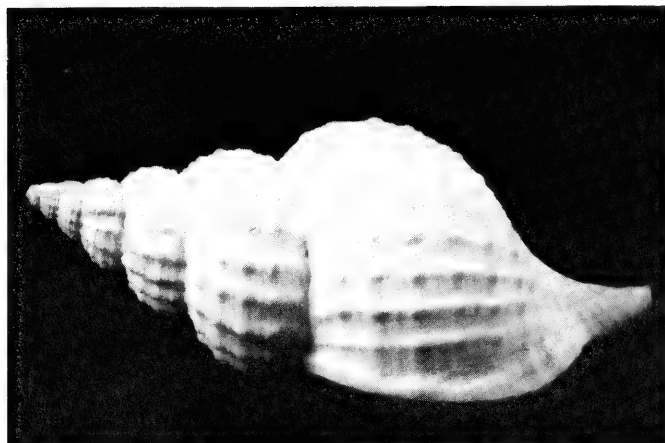


Fig. 6. *Fusitriton magellanicus laudandus* Finlay, 1927, an 84.3mm specimen from Pegasus Bay, Canterbury, New Zealand (AbS 81-2902).

Genus ***Fusitriton*** Cossmann, 1903  
(= *Cryotritonium* von Martens, 1904)  
***Fusitriton galea*** Kuroda & Habe in Habe, 1961, S. Japan  
***magellanicus magellanicus*** (Röding, 1798) (= *cancellatus* Lamarck), S. America  
***magellanicus laudandus*** Finlay, 1927, N. Zealand  
***magellanicus murrayi*** (E.A. Smith, 1891), S. Africa  
***magellanicus retiolus*** (Hedley, 1914), S. Australia  
***oregonensis*** (Redfield, 1846), N. Japan to California  
***takedai*** Habe, 1979, Emperor Seamounts, N. Pacific

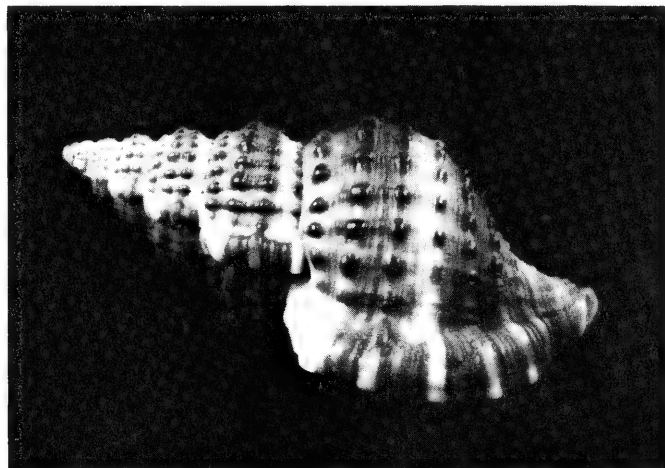


Fig. 7. *Gyrineum* (*Gyrineum*) *natator* (Röding, 1798), a 39.2mm specimen from Bombay, India (AbS 81: 74-3273).

Genus ***Gyrineum*** Link, 1807  
Subgenus ***Gyrineum*** Link, 1807  
(= *Apollon* Montfort, 1810; = *Gyrinella* Dall, 1924)  
***Gyrineum* (*Gyrineum*) *bituberculare*** (Lamarck, 1816)  
West Pacific  
***concinnum*** (Dunker, 1862) (= *sagitta* Küster, 1871), Red Sea  
***gyrinum gyrinum*** (Linné, 1758), West Pacific  
***gyrinum wilmerianum*** Preston, 1908, Indian Ocean.  
***hirasei*** (Kuroda & Habe in Habe, 1961), southern Japan  
***louisae*** Lewis, 1974 (= *atlanticum* Fechter, 1975), Indo-West Pacific and Atlantic  
***natator*** (Röding, 1798), northern Indo-West Pacific  
***pusillum*** (Broderip, 1833) (= *cuspidatum* Reeve, 1844; = *facetum* Iredale, 1936; = *deliberatus* Iredale, 1936), Indo-West Pacific  
***roseum*** (Reeve, 1844), West Pacific  
n.sp., Philippines  
n.sp., Coral Sea



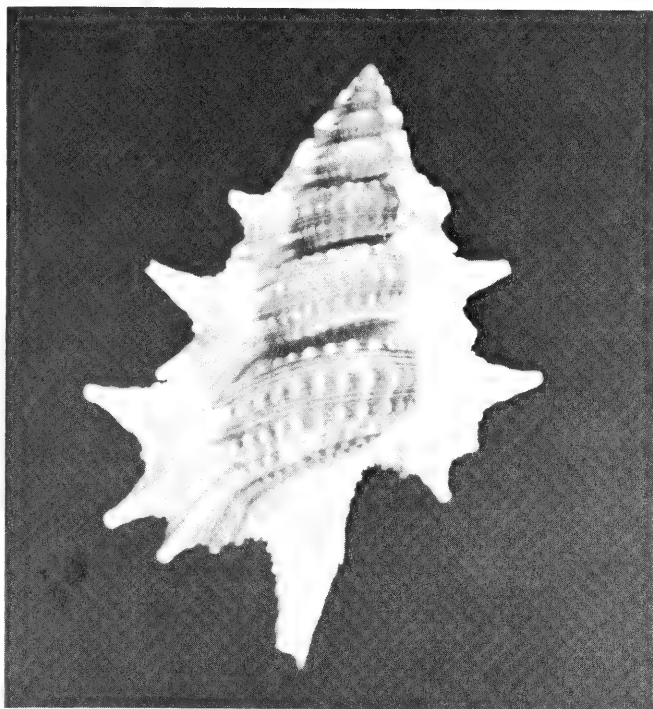


Fig. 8. *Gyrineum (Biplex) pulchrum* (Gray in G.B. Sowerby II, 1836), a 56.3mm specimen from Kii Peninsula, Japan (AbS 80-1957).

Subgenus *Biplex* Perry, 1811

*Gyrineum (Biplex) perca* (Perry, 1811), N.W. Pacific  
*pulchellum* (G.B. Sowerby I, 1825) (= *jucundum* A. Adams, 1853), N.E. Australia  
*pulchrum* (Gray in G.B. Sowerby II, 1836) (= *Gyrineum perca* var. *aculeata* Schepman, 1909; = *microstoma* Fulton, 1930), W. Pacific

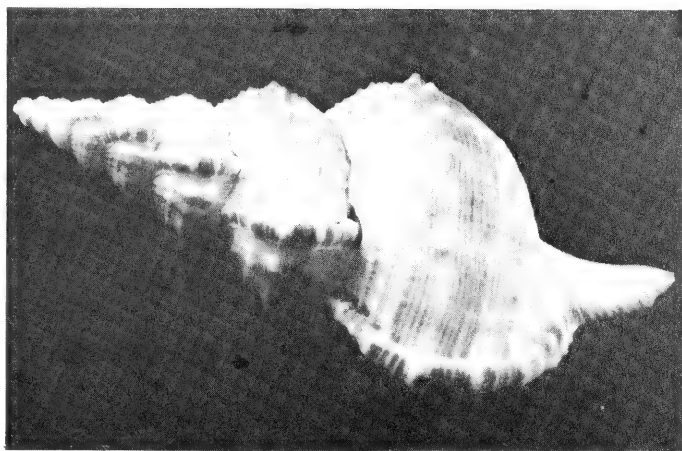


Fig. 9. *Ranella olearia* (Linné, 1758), a 126.5mm specimen from Senegal, western Africa (AbS 83-338).

Genus *Ranella* Lamarck, 1816

(= *Gyrina* Schumacher, 1817; = *Eugyrina* Dall, 1904; = *Mayena* Iredale, 1917; = *Gyrinopsis* Dall, 1927)  
*Ranella australasia australasia* (Perry, 1811) (= *vossi* Powell, 1952; = *blacki* Powell, 1954, etc.), S.W. Pacific  
*australasia gemnifera* (Euthyme, 1889), S. Africa  
*olearia* (Linné, 1758) (= *gigantea* Lamarck, 1816; = *multinodosa* Bucknill, 1927; = *ostenfeldi* Iredale, 1937), Mediterranean, E & W Atlantic, S. Africa, St Paul & Amsterdam Is., Réunion, & N. Zealand.

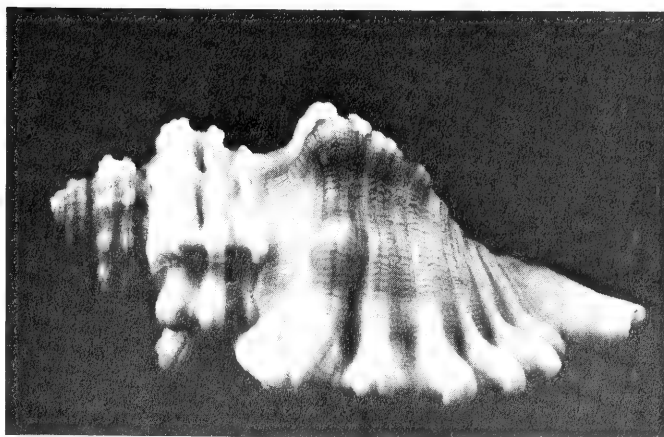


Fig. 10 *Cabestana cutacea cutacea* (Linné, 1767), a 58.3mm specimen from the Gulf of Naples, Italy (AbS 84-1495).

Subfamily CYMATIINAE Iredale, 1913 (1891)

Genus *Cabestana*, Röding, 1798

(= *Aquillus* Montfort, 1810; = *Dolarium* Schlüter, 1838;  
 = *Neptunella* Gray, 1854; = *Cymatilesta* Iredale, 1936)

*Cabestana cutacea cutacea* (Linné, 1767), Mediterranean & W. Africa

*cutacea dolaria* (Linné, 1767) (= *africanus* A. Adams, 1854), S. Africa

*felipponei* (von Ihering, 1907), S.E. South America

*spengleri* (Perry, 1811) (= *bolteniana* A. Adams, 1854; = *barthelemyi* Bernardi, 1857), S.W. Pacific

*tabulata* (Menke, 1843) (= *waterhousei* A. Adams & Angas, 1865; = *segregata* Powell, 1933; = *otagoensis* Powell, 1954), S.W. Pacific

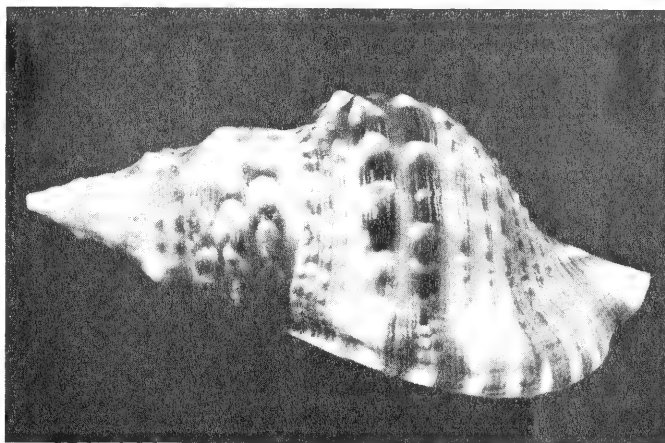


Fig. 11. *Charonia lampas rubicunda* (Perry, 1811) a 106.3mm specimen from Garden Island, western Australia (AbS 80-1442).

Genus *Charonia* Gistel, 1848

(= *Tritonium* Röding, 1798, not of Müller, 1776; = *Triton* Montfort, 1810, not of Linné, 1758; = *Buccinatorium* Mörch, 1877; = *Eutritonium* Cossmann, 1904)

*Charonia lampas lampas* (Linné, 1758) (= *nodiferum* Lamarck, 1822), Mediterranean & E. Atlantic

*lampas pustulata* (Euthyme, 1889), Brazil & S. Africa. (= *weisbordi* Gibson-Smith, 1976)

*lampas rubicunda* (Perry, 1811) (= *euclia* Hedley, 1914; = *capax* Finlay, 1927; = *powelli* Cotton, 1957), S.W. Pacific

*lampas sauliae* (Reeve, 1844), S. Japan

*tritonis tritonis* (Linné, 1758), Indo-West Pacific

*tritonis variegata* (Lamarck, 1816), Mediterranean & E. & W. Atlantic



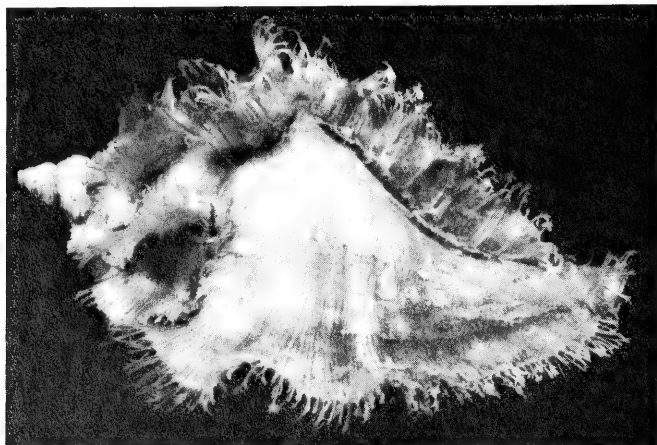


Fig. 12. *Cymatium (Cymatium) tigrinum* (Broderip, 1833), an 87mm specimen with preserved periostracum, from Venado I., Panama (AbS 74-401).

Genus *Cymatium* Röding, 1798

Subgenus *Cymatium* Röding, 1798

(=*Lotorium* Montfort, 1810; =*Tritocurrus* Lesson, 1842;  
=*Nyctilochus* Gistel, 1848)

*Cymatium (Cymatium) femorale* (Linné, 1758), W. Atlantic  
*raderi* D'Attilio & Myers, 1984, W. Atlantic  
*ranzanii* (Bianconi, 1850), W. Indian Ocean  
*tigrinum* (Broderip, 1833), Panamic W. America

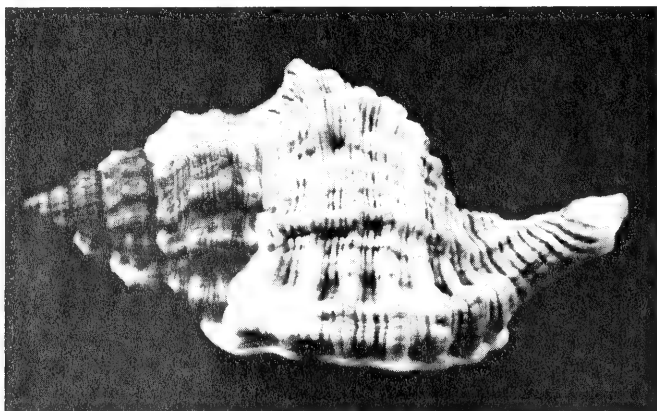


Fig. 13. *Cymatium (Guttarium) muricinum* (Röding, 1798), a 52.5mm specimen from Zanzibar, east Africa (74-605).

Subgenus *Guttarium* Mörch, 1852

*Cymatium (Guttarium) muricinum* (Röding, 1798) (= *tuberosum*  
Lamarck, 1822), cosmopolitan in tropical seas

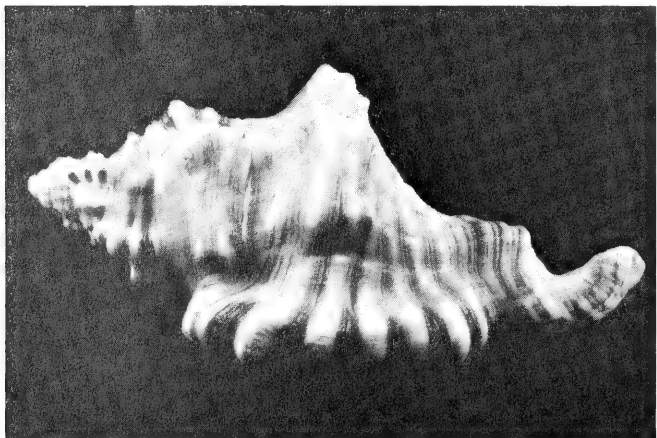


Fig. 14. *Cymatium (Lotoria) perryi* Emerson & Old, a 97mm specimen from Tirichandar, India (AbS 85-1024).

Subgenus *Lotoria* Emerson & Old, 1963

*Cymatium (Lotoria) grandimaculatum* (Reeve, 1844), N. Indo-  
West Pacific

*lotorium* (Linné, 1758), Indo-W. Pacific

*perryi* Emerson & Old, 1963, N. Indian Ocean



Fig. 15. *Cymatium (Lotoria) grandimaculatum* (Reeve, 1844), an 81.6mm specimen from the Philippines (AbS 80-1062).



Fig. 16. *Cymatium (Monoplex) trigonum* (Gmelin, 1791), a 35mm specimen from Senegal, western Africa (AbS 81-3180).

Subgenus *Monoplex* Perry, 1811

(=*Lampusia* Schumacher, 1817, =*Cymatriton* Clench &  
Turner, 1957)

*Cymatium (Monoplex) aquatile* (Reeve, 1844), Indo-W. Pacific  
& E. & W. Atlantic.

*corrugatum amictum* (Reeve, 1844) (= *tremperi* Dall, 1907;  
=*amictoideum* Keen, 1971), Panamic W. America

*corrugatum krebsii* (Möorch, 1877), W. Atlantic

*gemmatum* (Reeve, 1844), West Pacific

*intermedium* (Pease, 1869), Indo-West Pacific

*macrodon* (Valenciennes, 1832), Panamic W. America

*martinianum* (d'Orbigny, 1846), E. & W. Atlantic

*mundum* (Gould, 1849) (= *gemmatum* of most authors, not of  
Reeve), Indo-West Pacific

*nicobaricum* (Röding, 1798), Indo-W. Pacific, E. & W.  
Atlantic

*parthenopeum parthenopeum* (von Salis, 1793) (= *australasiae*  
Perry, 1811; etc), Mediterranean, E. & W. Atlantic, S.  
Africa, S.W. Pacific

*parthenopeum echo* Kuroda & Habe in Kira, 1961, S. Japan  
to Hong Kong, N. Indian Ocean, Hawaii

*parthenopeum keenae* (Beu, 1970), Panamic W. America

*pileare* (Linné, 1758), Indo-West Pacific

*tranquebaricum* (Lamarck, 1816), W. Africa

*trigonum* (Gmelin, 1791), W. Africa

*turtoni* (E.A. Smith, 1890), St. Helena

*vestitum* (Hinds, 1844), Panamic W. America

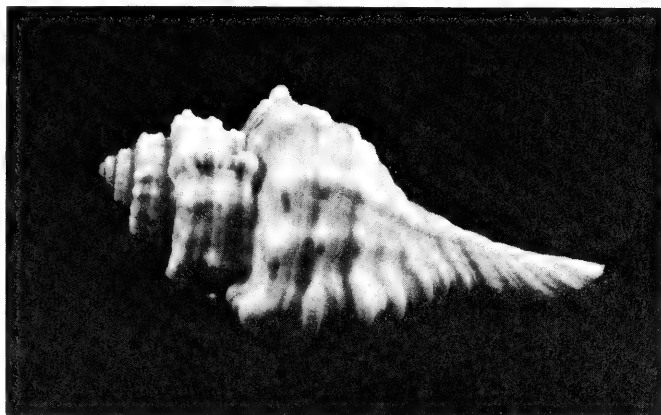


Fig. 17. *Cymatium (Ranularia) boschi* Abbott & Lewis, 1970, a 75mm specimen from Mina al Fahal, Muscat, Oman (AbS 80-1903).

Subgenus *Ranularia* Schumacher, 1817

(=*Retusum* Jousseaume, 1892, Ann. Sci. Nat. 12: 334; type species "*Triton retusum*"; (= *Tritonocauda* Dall, 1904)

- Cymatium (Ranularia) aegrotum* (Reeve, 1844), West Pacific  
*armatum* (G.B. Sowerby III, 1897), W. Pacific  
*boschi* Abbott & Lewis, 1970, N. Indian Ocean  
*caudatum* (Gmelin, 1791), Indo-W. Pacific  
*cynocephalum* (Lamarck, 1816) (= *moritinctum* Reeve, 1844; = *caribbaeum* Clench & Turner, 1957), Indo-W. Pacific, E. & W. Atlantic  
*dunkeri dunkeri* (Lischke, 1868), S. Japan  
*dunkeri iredalei* (Beu, 1968), Kermadec Is. and Queensland  
*encausticum* (Reeve, 1844), W. Pacific  
*exile* (Reeve, 1844), Indo-W. Pacific  
*gallinago* (Reeve, 1844), W. Pacific  
*gutturium* (Röding, 1798), W. Pacific  
*moniliferum* (A. Adams & Reeve, 1850), Indian Ocean  
*oblitum* (Lewis & Beu, 1976), W. Pacific  
*oboesum* (Perry, 1811) (= *retusum* Lamarck, 1822), Indian Ocean  
*pyrulum* (A. Adams & Reeve, 1850), W. Pacific  
*pyrum* (Linné, 1758), Indo-W. Pacific  
*rehderi* Verrill, 1950, Caribbean  
*sarcostomum* (Reeve, 1844), Indo-W. Pacific  
*sinense sinense* (Reeve, 1844), W. Pacific  
*sinense* n. subsp., Red Sea  
*testudinarium* (A. Adams & Reeve, 1850), W. Pacific  
*trilineatum* (Reeve, 1844), N. Indian Ocean & Red Sea  
*tripum* (Lamarck, 1822), N. Indian Ocean  
n.sp., N. W. Pacific  
n.sp., Andaman Islands  
n.sp.?, Maldives Islands

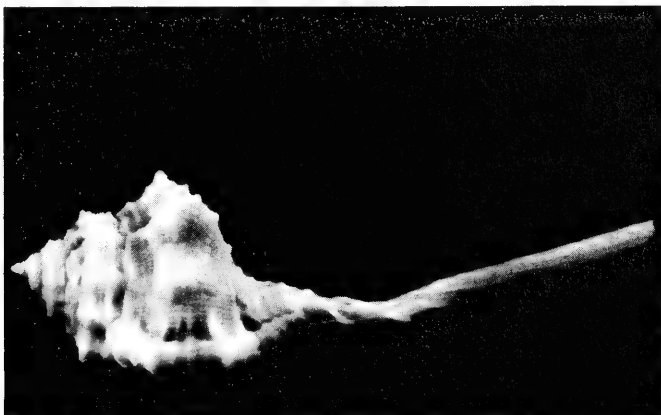


Fig. 18. *Cymatium (Ranularia) exile* (Reeve, 1844), a 55mm specimen from the Philippines (AbS 83-984).

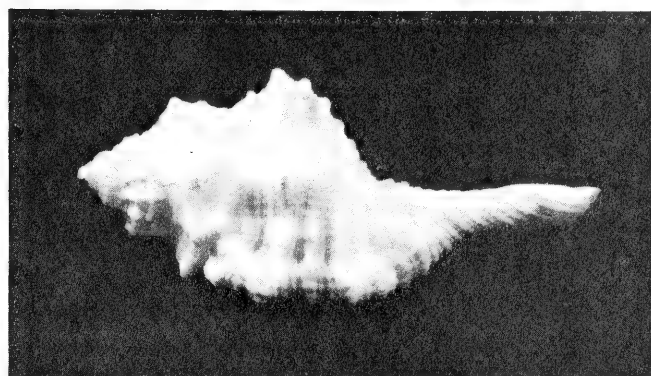


Fig. 19. *Cymatium (Ranularia) aegrotum* (Reeve, 1844), a 50.5mm specimen from Zanzibar, east Africa (AbS 74-3354).

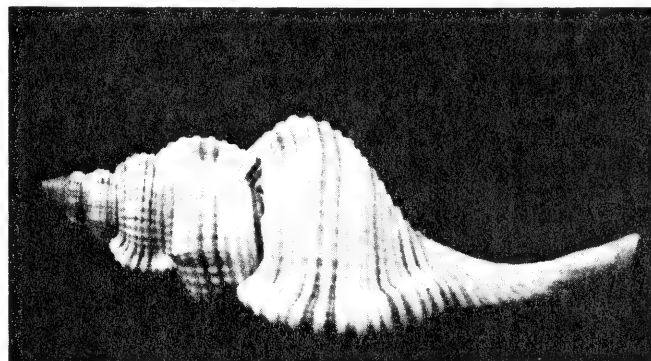


Fig. 20. *Cymatium (Reticutriton) pfeifferianum* (Reeve, 1844), a 53.5mm specimen from Mozambique, east Africa (AbS 74-3086).

Subgenus *Reticutriton* Habe & Kosuge, 1966

*Cymatium (Reticutriton) lineatum* (Broderip, 1833), Galapagos  
*pfeifferianum* (Reeve, 1844), Indo-W. Pacific

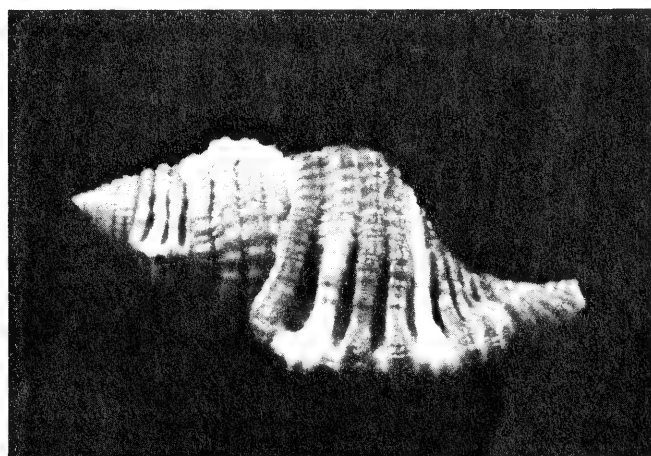


Fig. 21. *Cymatium (Septa) rubeculum marerubrum* (Garcia-Talavera, 1985), 32mm specimen from Ras Burka, Sinai, Egypt, Red Sea (AbS 85-615).

Subgenus *Septa* Perry, 1810

(=*Simpulum* Mörch, 1852, not of Fabricius)

- Cymatium (Septa) flaveolum* (Röding, 1798) (= *limbatum* Röding, 1798), Indo-West Pacific.  
*hepaticum* (Röding, 1798), Indo-West Pacific  
*occidentale* (Mörsch, 1877) (= *blacketi* Iredale, 1936; = *beui* Garcia-Talavera, 1985), Indo-West Pacific and W. Atlantic  
*rubeculum rubeculum* (Linné, 1758), Indo-West Pacific  
*rubeculum marerubrum* Garcia-Talavera, 1985, Red Sea  
n.sp., Philippines  
n.sp., West Pacific  
n.sp., Indian Ocean

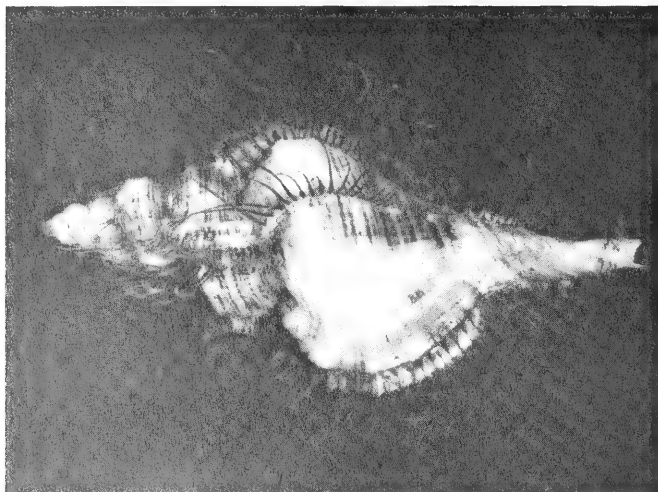


Fig. 22. *Cymatium (Turritriton) tenuiliratum* (Lischke, 1873), a 59.3mm specimen with preserved periostracum, from Bohol, Philippines (AbS 85-206).

Subgenus *Turritriton* Dall, 1904

(=*Tritoniscus* Dall, 1904; =*Particymatium* Iredale, 1936;

=*Cabestanimorpha* Iredale, 1936)

*Cymatium (Turritriton) comptum* (A. Adams, 1854) (= *vespaceum* of Atlantic records), Indo-W. Pacific and E. & W. Atlantic  
*exaratum exaratum* (Reeve, 1844) (= *kiiensis*?), S.W. Pacific & Hawaii

*exaratum durbanense* (E.A. Smith, 1899), S. Africa

*exaratum kiiense* (G.B. Sowerby III, 1915), S. Japan

*gibbosum* (Broderip, 1833) (= *kobelti* von Maltzan, 1884; = *gomesi* Nordsieck & Garcia-Talavera, 1979), Panamic W. America & W. Africa.

*klenei* (G.B. Sowerby III, 1889), S. Africa & Indian Ocean

*labiosum* (Wood, 1828), Indo-W. Pacific and E. & W. Atlantic

*lignarium* (Broderip, 1833), Panamic W. America

*tenuiliratum* (Lischke, 1873) (= *pharcida* Dall, 1889), Indo-W. Pacific and E. & W. Atlantic

*vespaceum* (Lamarck, 1822) (= *thersites* Reeve, 1844), Indo-W. Pacific

n.sp.? aff. *vespaceum*, Indo-West Pacific

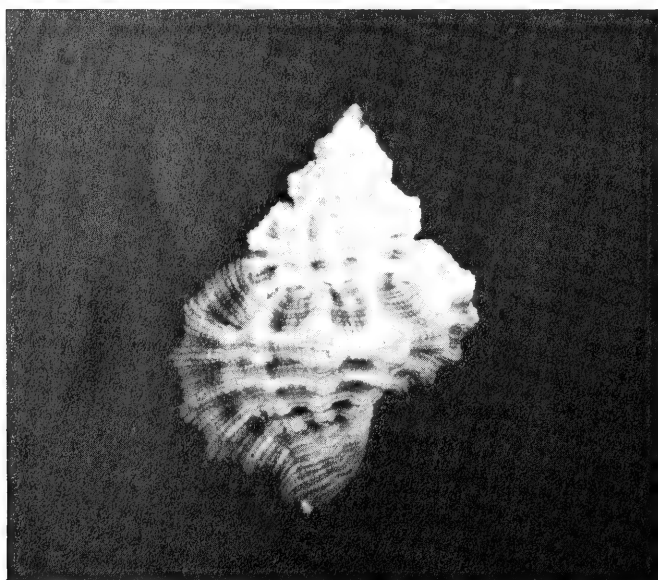


Fig. 23. *Cymatium (Turritriton) labiosum* (Wood, 1828), a 33.8mm specimen from Zanzibar, east Africa (AbS 79.1136).



Fig. 24. *Linatella (Linatella) caudata* (Gmelin, 1791), a 54mm specimen from Mozambique, east Africa (AbS 80-1060).

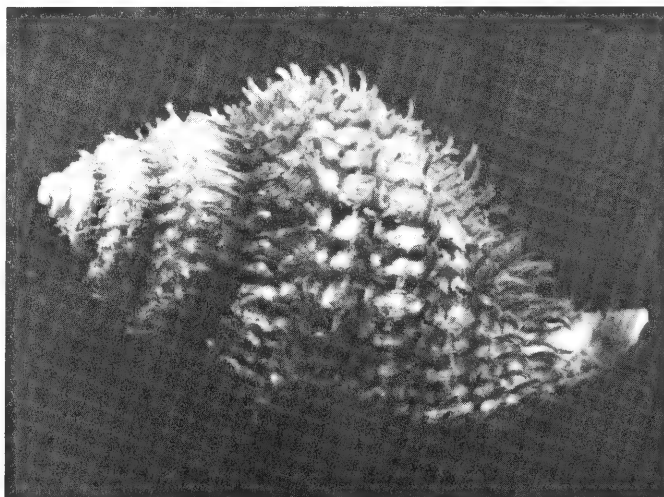


Fig. 25. *Linatella (Linatella) wiegmanni* (Anton, 1838), an 82.7mm specimen with preserved periostracum, from Playas, Ecuador (AbS 82-1818).

Genus *Linatella* Gray, 1857

Subgenus *Linatella* Gray, 1857

*Linatella (Linatella) caudata* (Gmelin, 1791) (= *cutaceus* Lamarck, 1816; *cingulata* Lamarck, 1822; = *poulsenii* Mörch, 1877; etc), Indo-W. Pacific and E. W. Atlantic  
*wiegmanni* (Anton, 1838), Panamic W. America

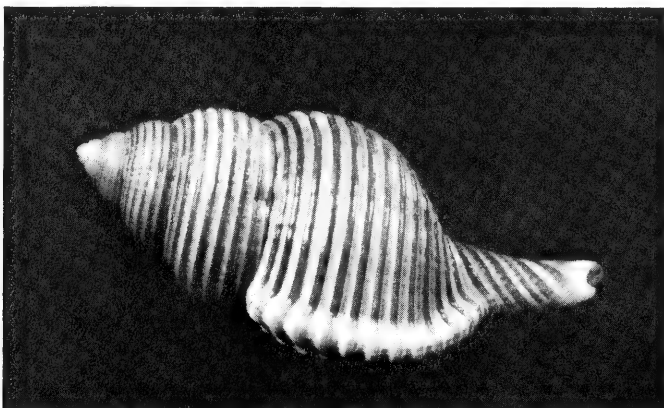


Fig. 26. *Linatella (Gelagna) succincta* (Linné, 1771), a 66.5mm specimen from Cebu, Philippines (AbS 84-208).

Subgenus *Gelagna* Schaufuss, 1869

(=*Lagna* Schumacher, 1817, not of Walker & Boys, 1784;

=*Paralagna* Dall, 1904)

*Linatella (Gelagna) succincta* (Linné, 1771) (= *clandestina* Lamarck, 1816), Indo-W. Pacific & W. Africa



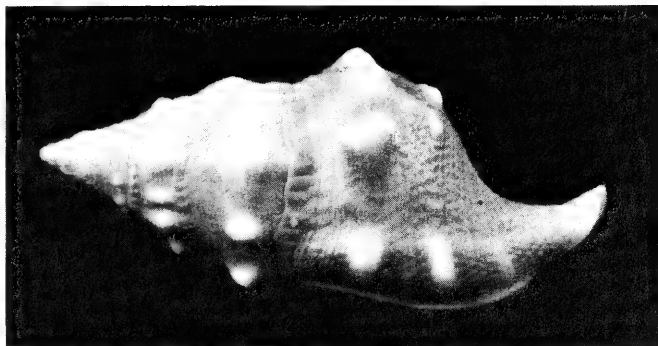


Fig. 27 *Sassia* (*Sassia*) *palmeri* (Powell, 1967), a 51mm specimen from Ranfurly Bank, East Cape, New Zealand (AbS 85.490).

Genus *Sassia* Bellardi, 1872

Subgenus *Sassia* Bellardi, 1872

(=*Semiranella* Gregorio, 1880; =*Monocirsus* Cossmann, 1889; =*Cymatona* Iredale, 1929; =*Charoniella* Powell & Bartrum, 1929, not of Thiele, 1929; =*Austrosassia* Finlay, 1931; =*Phanozesta* Iredale, 1936; =*Proxicharonia* Powell, 1938)

*Sassia* (*Sassia*) *apenninica nassariformis* (G.B. Sowerby III, 1902), South Africa

*apenninica remensa* (Iredale, 1936) (= *semitorta* Kuroda & Habe in Habe, 1961), W. Pacific

*kamplya kamplya* (Watson, 1885), S.W. Pacific

*kamplya tomlini* (Powell, 1955), Macquarie I.

*lewisii* Harasewych & Petuch, 1980, Caribbean

*marshalli* Beu, 1978, Kermadec I. & E. Australia

*midwayensis* (Habe & Okutani, 1968), Midway I., Hawaii

*palmeri* (Powell, 1967), S.W. Pacific

*parkinsonia* (Perry, 1811), S.W. Pacific

*philomelae* (Watson, 1880), Tristan de Cunha

n.sp., S. Queensland



Fig. 28. *Sassia* (*Sassia*) *kampyla kampyla* (Watson, 1885), a 47.3mm specimen from Bounty I., New Zealand (AbS 85-191).

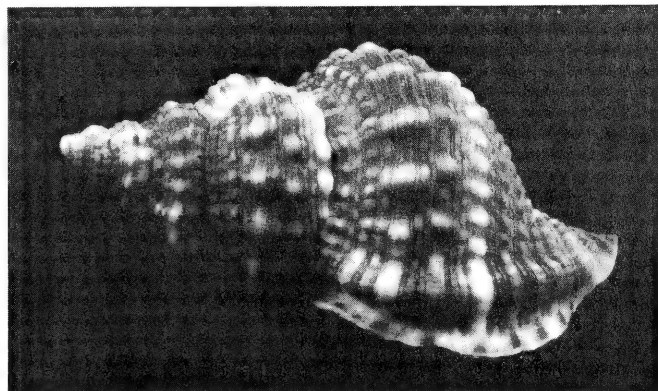


Fig. 29. *Sassia* (*Austrotriton*) *subdistorta* (Lamarck, 1822) a 51mm specimen from Devonport, northwest Tasmania, Australia (AbS 84-1501).

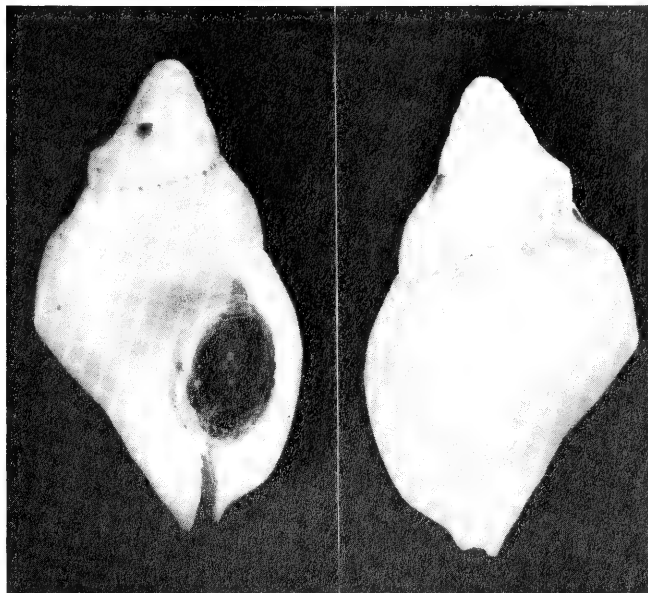


Fig. 30. *Sassia* (*Austrotriton*) *bassi* (Angas, 1869), a 38.3mm specimen from Boston Bay, Port Lincoln, Eyre Peninsula, South Australia (AbS 85-294).

Subgenus *Austrotriton* Cossman, 1903

(=*Negyrina* Iredale, 1929; =*Charoniella* Thiele, 1929)

*Sassia* (*Austrotriton*) *bassi* (Angas, 1869), S.E. Australia

*epitrema* (T. Woods, 1877), Bass Strait

*garrardi* (Beu, 1970), S.E. Australia

*mimetica* (Tate, 1893), S.E. Australia

*petulans* (Hedley & May, 1908), Tasmania

*subdistorta* (Lamarck, 1822), southern Australia

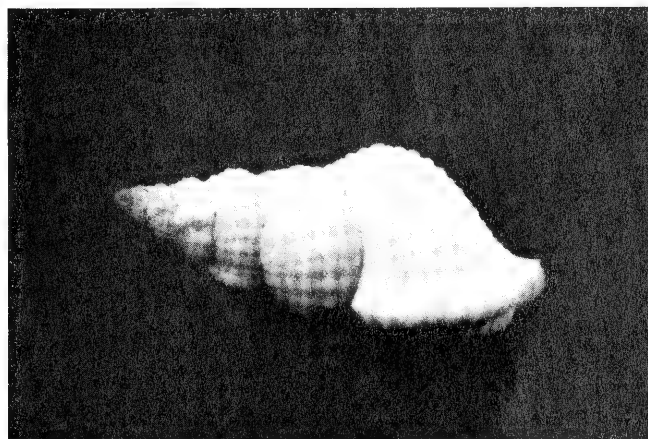


Fig. 31. *Sassia* (*Cymatiella*) *eburnea* (Reeve, 1844), a 23.8mm shell from Pebbly Beach, Port MacDonnell, South Australia (AbS 75-82).

Subgenus *Cymatiella* Iredale, 1924

(=*Vernotriton* Iredale, 1936)

*Sassia* (*Cymatiella*) *columnaria* (Hedley & May, 1908), Tasmania

*eburnea* (Reeve, 1844) (= *lesueuri* Iredale, 1929), S.E. Australia

*pumilio* (Hedley, 1903), northern NSW

*sexcostata* (Tate, 1888) (= *gaimardi* Iredale, 1929), S.E. Australia

*verrucosa* (Reeve, 1844) (= *peroniana* Iredale, 1929), southern Australia

n.sp.?, southern W. Australia



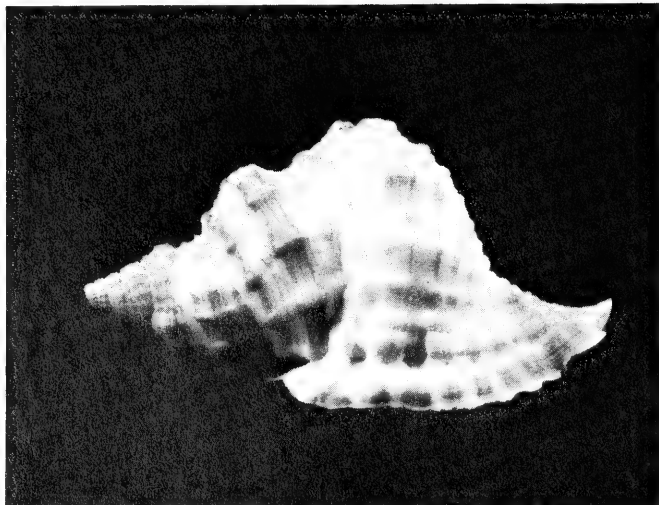


Fig. 32. *Distorsio (Distorsio) constricta habeii* Lewis, 1972, a 42.5mm specimen from Bohol, Philippines (AbS 85-293).

### Subfamily PERSONINAE Gray, 1854

Genus *Distorsio* Röding, 1798

(=*Distortrix* Link, 1807; =*Persona* Montfort, 1810; =*Distorta* Perry, 1811; =*Rhysema* Clench & Turner, 1957)

*Distorsio (Distorsio) anus* (Linné, 1758), Indo-W. Pacific

*burgessi* Lewis, 1972, Hawaii

*clathrata* (Lamarck, 1816), W. Atlantic

*constricta constricta* (Broderip, 1833), Panamic W. America

*constricta habeii* Lewis, 1972, W. Pacific

*constricta macgintyi* Emerson & Puffer, 1952, W. Atlantic

*decipiens* (Reeve, 1844), Indo-W. Pacific

*decussata* (Valenciennes, 1832) (= *ridens* Reeve), Panamic W. America

*kurzi* Petuch & Harasewych, 1980, Indian Ocean & N.W. Pacific

*perdistorta* Fulton, 1938, Indo-W. Pacific & E. & W. Atlantic

*reticulata* (Linné, 1758), Indo-W. Pacific

*smithii* (von Maltzan, 1884), W. Africa

n.sp., Indian Ocean - E. Australia

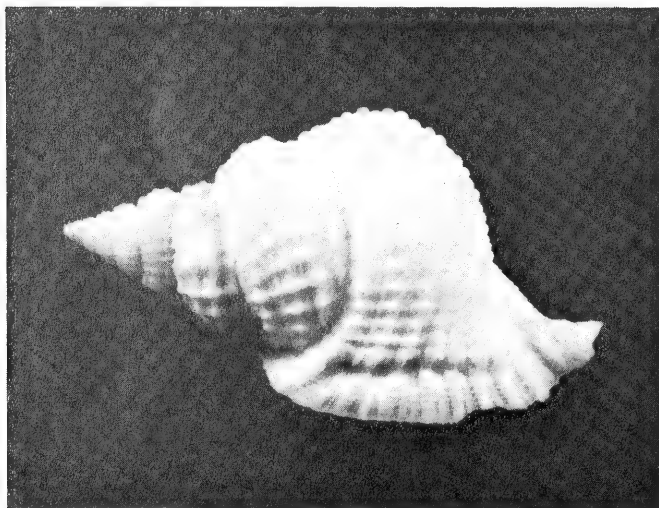


Fig. 33. *Distorsio (Distorsio) perdistorta* Fulton, 1938, a 51mm specimen from Tosa Bay, Japan (AbS 74-3346).

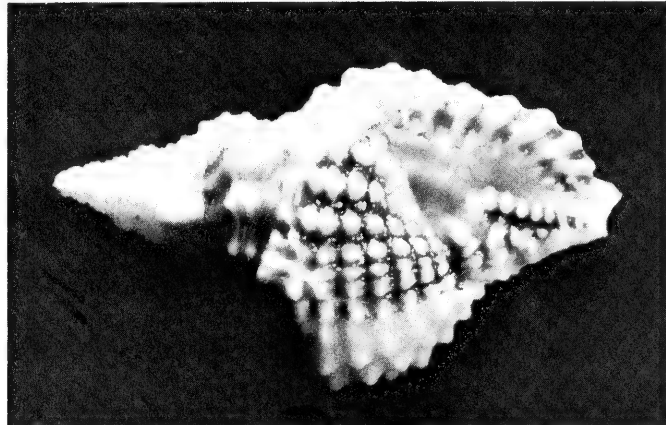


Fig. 34. *Distorsio (Distorsio) burgessi* Lewis, 1972, a 23mm specimen from Sand I., Oahu, Hawaii (AbS 85-818).

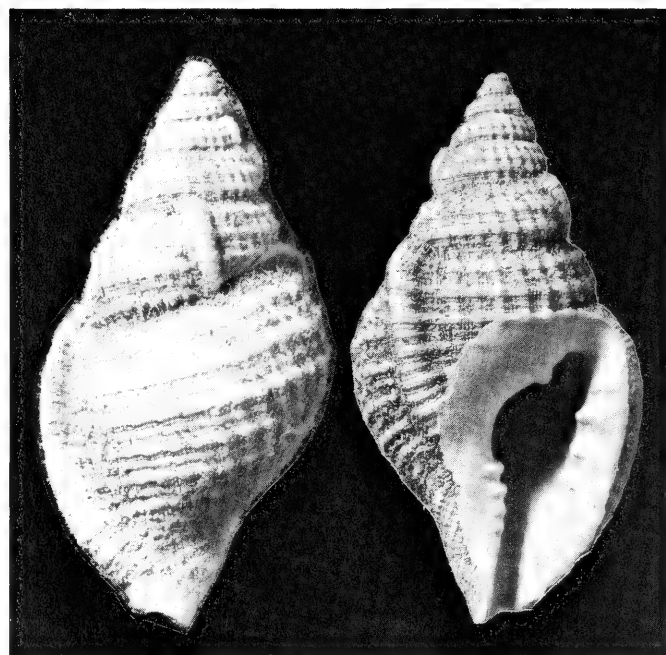


Fig. 35. Dorsal and apertural views of the holotype of *Distorsio (Distorsionella) lewisi* Beu, 1978, x 2, with periostracum whitened with ammonium chloride, taken from 563-614m, central Reinga Ridge between northern New Zealand and the Kermadec Islands. Photos by Miss D. Russell, New Zealand Geological Surveys; all others by Foster & Glass of specimens in the Abbey Specimen Shell Collection (AbS).

Subgenus *Distorsionella* Beu, 1978

*Distorsio (Distorsionella) lewisi* Beu, 1978, S.W. Pacific

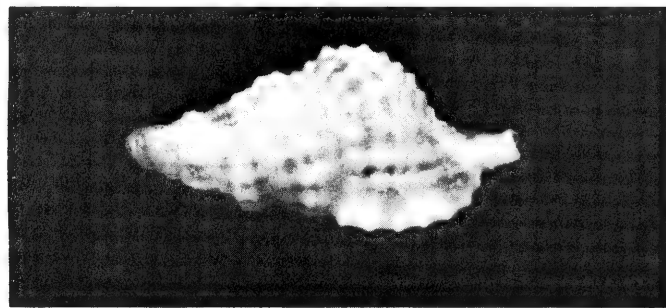


Fig. 36. *Personella pusilla* (Pease, 1861), a 9.3mm specimen from Cebu, Philippines (AbS -84-360).

Genus *Personella* Conrad, 1865

*Personella pusilla* (Pease, 1861), West Pacific

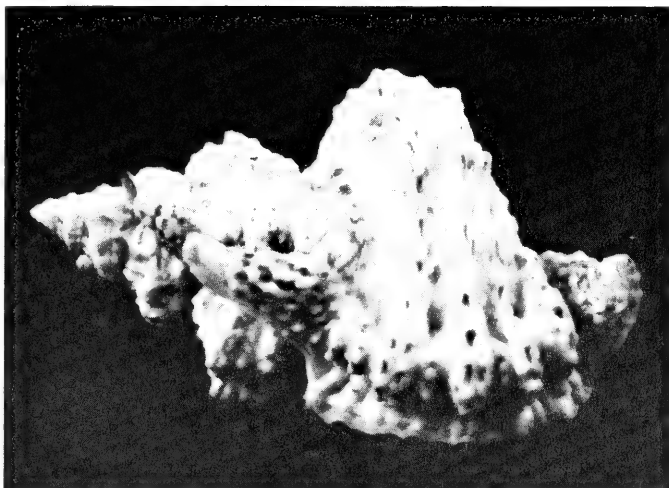


Fig. 37. *Bursa (Bursa) tuberosissima* (Reeve, 1844), a 52mm specimen from Balicasag I., Bohol, Philippines (AbS 85-340).

## Family *BURSIDAE* Thiele, 1929

Genus *Bursa* Röding, 1798

(=*Lampadopsis* Jousseaume, 1881; =*Pseudobursa* Rovereto, 1899)

*Bursa (Bursa) asperima* (Dunker, 1862), Indo-W. Pacific and Panamic W. America (Clipperton I.)

*bufonia* (Gmelin, 1791) (= *mammata* Röding, 1798; = *dunkeri* Kira, 1961), Indo-W. Pacific

*calcipicta* (Dall, 1908), Panamic W. America, in deep water

*cruentata* (G.B. Sowerby II, 1835), Indo-W. Pacific

*grayana* (Dunker, 1862) (= *bufoniopsis* Maury, 1917;

= *pacamoni* Matthews & Coelho, 1971, W. Atlantic

*lamarckii* (Deshayes, 1853), Indo-W. Pacific

*luteostoma* (Pease, 1861), Hawaii

*rhodostoma rhodostoma* (Beck in G.B. Sowerby II, 1835), Indo- W. Pacific

*rhodostoma thomae* (d'Orbigny, 1842), E. & W. Atlantic

*rosa* (Perry, 1811) (= *siphonata* Reeve, 1844), Indo-West Pacific

*rugosa* (G.B. Sowerby II, 1835), Panamic W. America, intertidal

*tuberosissima* (Reeve, 1844) (= *leo* Shikama, 1964), Indo- W. Pacific

*venustula* (Reeve, 1844), W. Pacific

n.sp., N. Indian & Pacific oceans

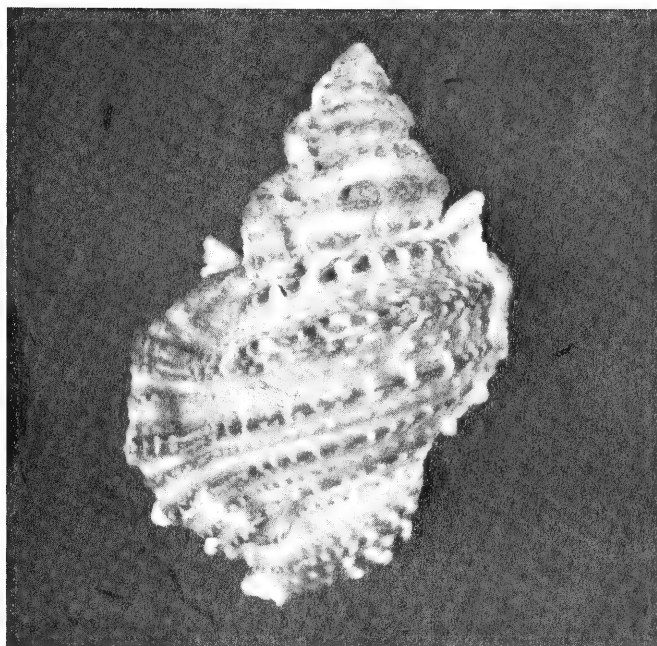


Fig. 39. *Bursa (Bursa) rugosa* (G.B. Sowerby II, 1835), a 47mm specimen from Palo Seco, Panama (AbS 84-280).

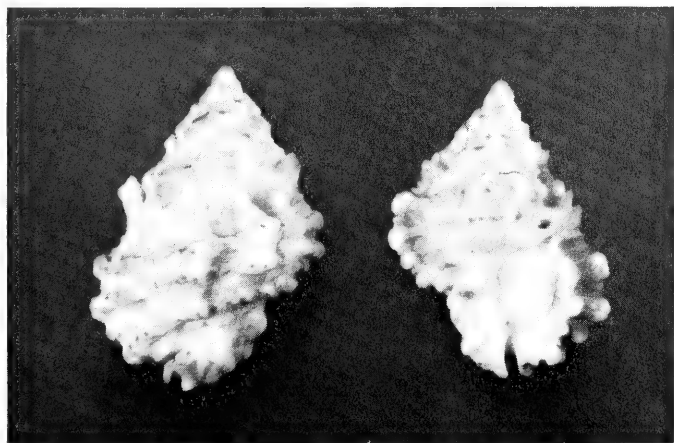


Fig. 38. *Bursa (Bursa)* sp., a new, soon to be described species; these 32mm and 28.5mm specimens (AbS 85-449, 550) from Medina, Misamis Prov., Mindanao, Philippines.

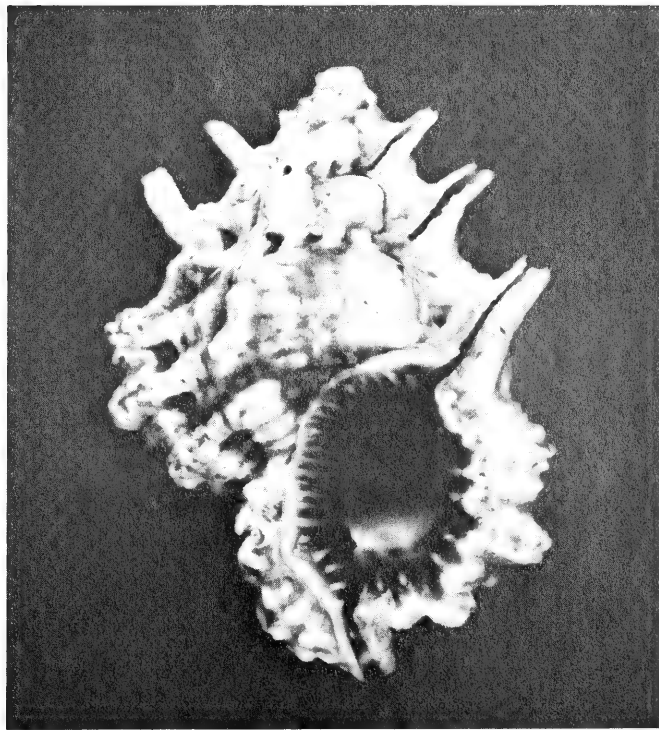


Fig. 40. *Bursa (Bursa) lamarckii* (Deshayes, 1853), a 53.5mm specimen from Cebu, Philippines.



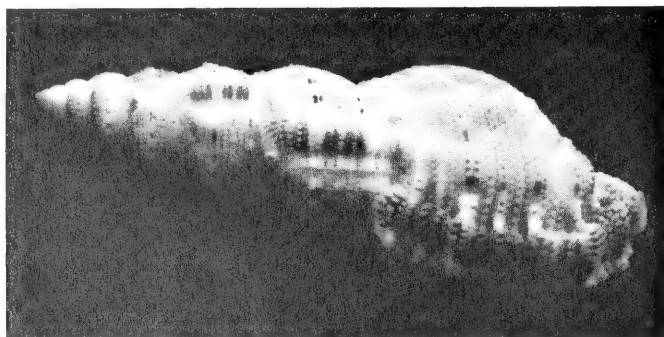


Fig. 41. *Bursa (Colubrellina) condita* (Gmelin, 1791), an 84.3mm specimen from Kwajalein Atoll, Marshall Islands (AbS 83-186).

Subgenus *Colubrellina* Fischer, 1884

(=*Bufonariella* Thiele, 1929; =*Dulcerana* Iredale, 1931, unavailable; =*Annaperenna* Iredale, 1936; =*Dulcerana* Iredale in Oyama, 1964; =*Tritonoranella* Oyama, 1964)

*Bursa (Colubrellina) awatii* (Ray, 1949) (= *rehderi* Beu, 1978), N.W. Pacific

*condita* (Gmelin, 1791) (= *candista* Lamarck, 1816), W. Pacific  
*corrugata corrugata* (Perry, 1811) (= *caelata* Broderip, 1833; = *semigranosa* Lamarck, 1822; = *louisia* M. Smith, 1948), Panamic W. America

*corrugata ponderosa* (Reeve, 1844), W. Atlantic

*corrugata pustulosa* (Reeve, 1844), W. Africa & Ascension I.

*fijiensis* (Watson, 1881), deep water off Fiji (status?)

*granularis granularis* (Röding, 1798), Indo-W. Pacific (many synonyms)

*granularis cubaniana* (d'Orbigny, 1842), W. Atlantic

*latitudo latitudo* Garrard, 1961 (= *wolfei* Beu?), E. Australia

*latitudo natalensis* Coelho & Matthews, 1970, W. Atlantic

*latitudo wolfei* Beu, 1981, W. Pacific

*latitudo* n. subsp., Philippines

*ranelloides ranelloides* (Reeve, 1844), S. Japan

*ranelloides humilis* Beu, 1981, Indian Ocean

*ranelloides tenuisculpta* Dautzenberg & Fischer, 1906

(= *finlayi* McGinty, 1962; = *canarica* Nordsieck, 1975;

= *benvegnae* Penna-Neme & Moriera Leme, 1978), E. &

W. Atlantic to S. Africa

*scrobilator scrobilator* (Linné, 1758), Mediterranean to Cape Verde

*scrobilator coriacea* (Reeve, 1844), W. Africa south of Cape Verde

*verrucosa* (G.B. Sowerby I, 1825), S.W. Pacific n.sp., Philippines

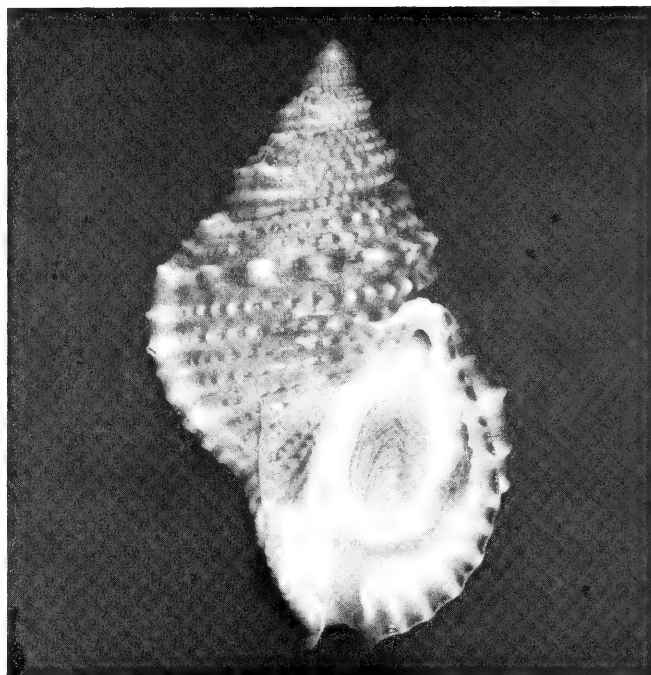


Fig. 42. *Bursa (Colubrellina) awatii* (Ray, 1949), a 57mm specimen from Balicasag Is., Bohol, Philippines (AbS 85-950).

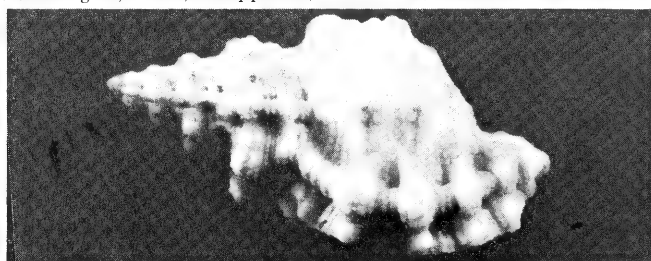
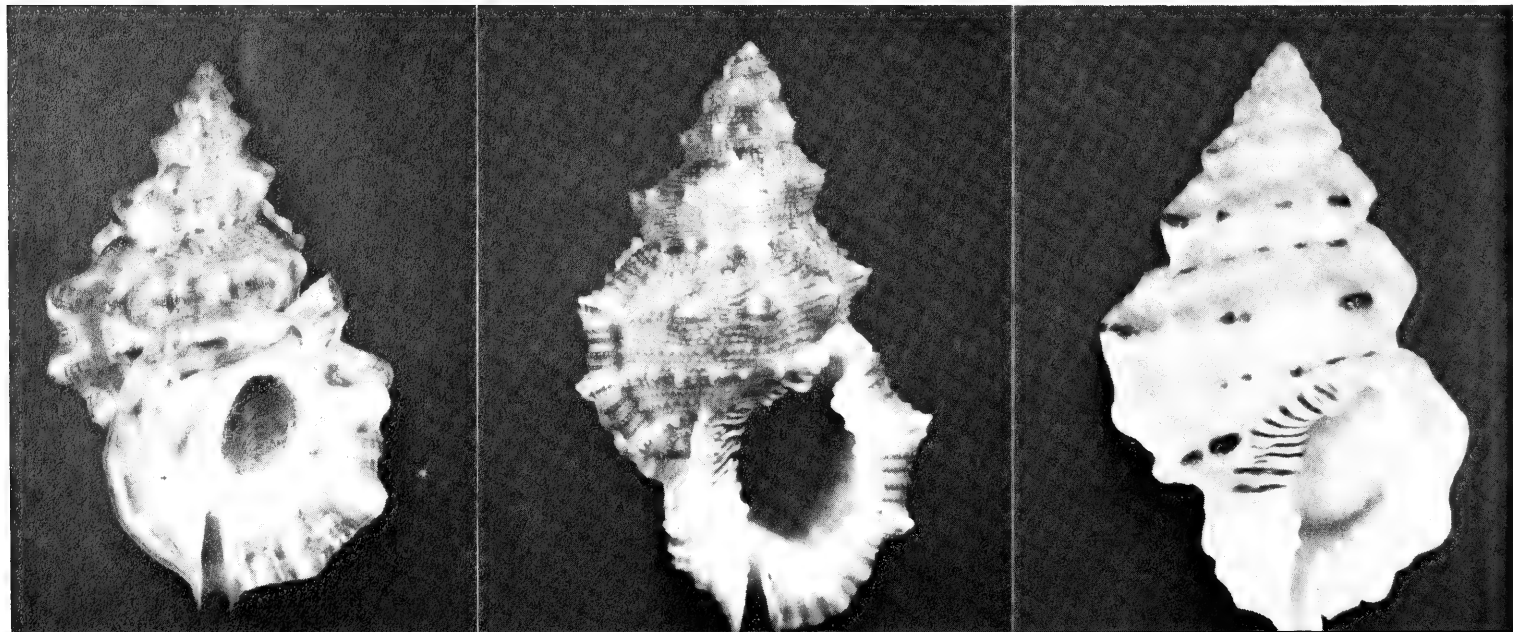


Fig. 43. *Bursa (Colubrellina) scrobilator coriacea* (Reeve, 1844), a 43mm specimen from Casamance, Senegal, western Africa (AbS 82-940).

Fig. 44 (below, left). A new, soon to be described species of *Bursa (Colubrellina)* from Balicasag I., Bohol, Philippines (AbS 85-606; 53.5mm); fig. 45 (below, center). A new, soon to be described subspecies of *Bursa (Colubrellina) latitudo*, also from Balicasag I., Bohol (AbS 85-251; 54.3mm); fig. 46 (below, right). *Bursa (Colubrellina) verrucosa* (G.B. Sowerby I, 1825), a 45mm specimen from Poor Knights Islands, Northland, New Zealand (AbS 85-344).



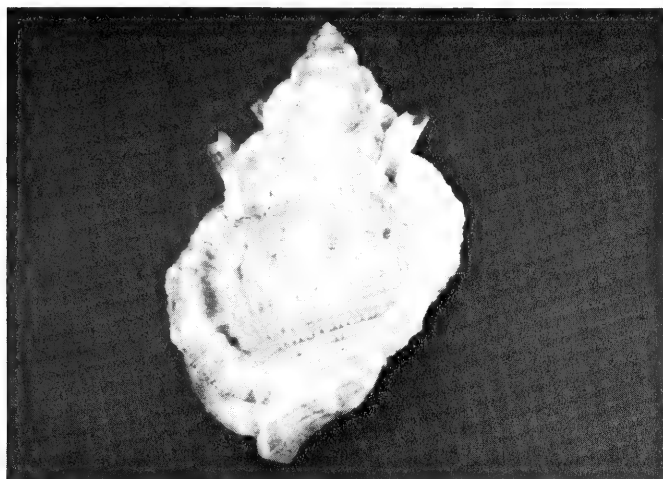


Fig. 47 *Bufonaria* (*Bufonaria*) *gnorima* (Melvill, 1918), a 52.5mm specimen from Balicasag I., Bohol, Philippines (AbS 85-344).

Genus *Bufonaria* Schumacher, 1817

Subgenus *Bufonaria* Schumacher, 1817

(=*Chasmotheca* Dall, 1904; =*Bursina* Oyama, 1964)

*Bufonaria* (*Bufonaria*) *albivaricosa* (Reeve, 1844), N.W. Pacific

*crumena crumena* (Lamarck, 1816), Indian Ocean

*crumena cavitensis* (Beck in Reeve, 1844), W. Pacific

*echinata* (Link, 1807) (= *bufonia* Röding, not Gmelin; = *spinosa* Lamarck, 1816), N. Indian Ocean & N.W. Pacific

*elegans* (Beck in G.B. Sowerby II, 1836), Andaman Is. and Indonesia

*fernandesi* Beu, 1977, W. Indian Ocean

*foliata* (Broderip, 1826), Indian Ocean to N.W. Australia

*gnorima* (Melvill, 1918) (= *koperbergae* Altena, 1942), deep water, Indo-W. Pacific

*margaritula* (Deshayes, 1832) (= *pacator* Iredale, 1931), Indo-W. Pacific

*nobilis* (Reeve, 1844), N.W. Pacific

*rana* (Linné, 1758), N. Indian & W. Pacific oceans

*subgranosa* (G.B. Sowerby II, 1836), Philippines and N.E. Australia

*thersites* (Redfield, 1846), W. Pacific

n.sp., N.W. Pacific

n.sp., Indo-West Pacific ("small *nobilis*")

n.sp.?, Red Sea

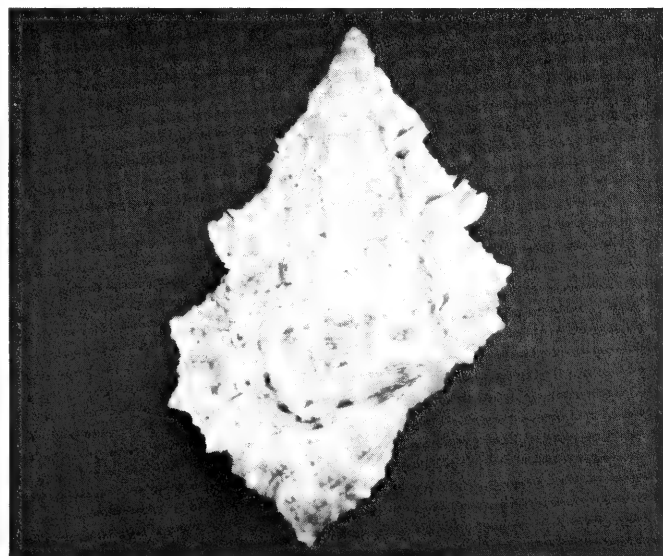


Fig. 48. A new, soon to be described species of *Bufonaria* (*Bufonaria*) ("small *nobilis*") from Balicasag I., Bohol, Philippines (AbS 85-1008).

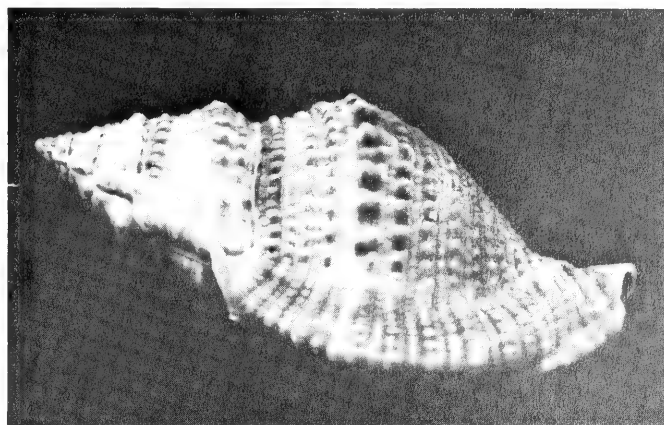


Fig. 49. *Bufonaria* (*Marsupina*) *bufo* (Bruguière, 1792), a 59mm specimen from northeast Honduras (AbS 82-790).

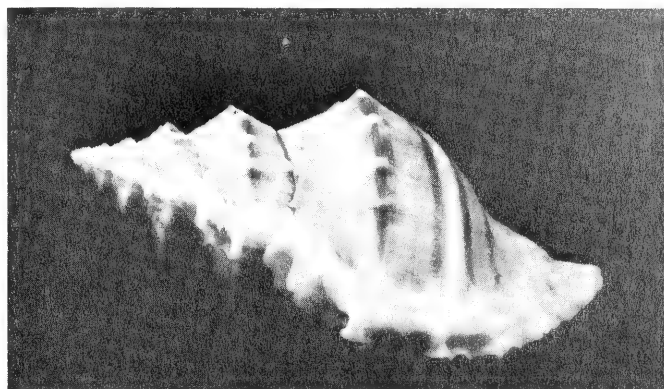


Fig. 50. *Bufonaria* (*Marsupina*) *nana* (Broderip & Sowerby, 1829), a 64.5mm specimen from Playas, Ecuador (AbS 84-1477).

Subgenus *Marsupina* Dall, 1904

(= *Bufo* Montfort, 1810, not of Lacépède, 1788)

*Bufonaria* (*Marsupina*) *bufo* (Bruguière, 1792) (= *spadiceus* Montfort, 1810, = *crassa* Dillwyn, 1817), W. Atlantic

*nana* (Broderip & Sowerby, 1829) (= *albofasciata* G.B. Sowerby II, 1836), Panamic W. America

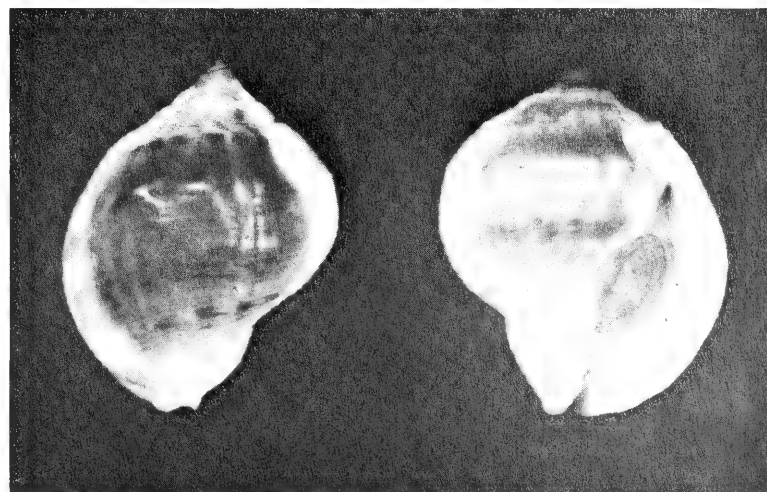


Fig. 51. *Bufonaria* (*Aspa*) *marginata* (Gmelin, 1791), 28 and 29mm specimens from Cayar, Senegal, western Africa (AbS 82-1572, 1573).

Subgenus *Aspa* H. & A. Adams, 1853

*Bufonaria* (*Aspa*) *marginata* (Gmelin, 1791) (= *laevigata* Lamarck, 1822), Mediterranean & W. Africa



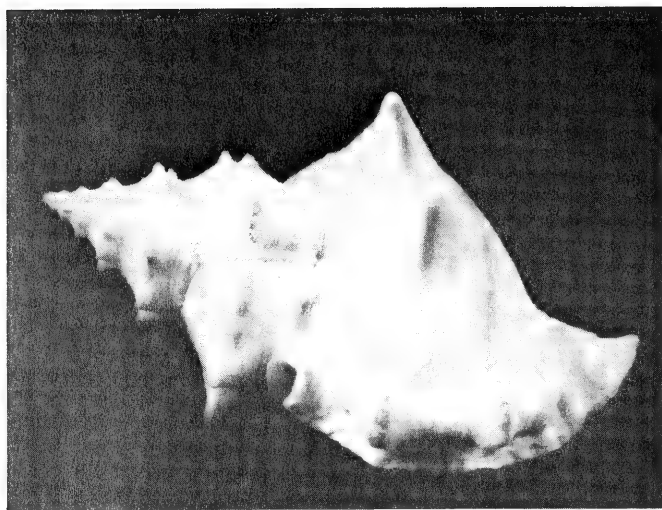


Fig. 52. *Crossata californica sonorana* (Berry, 1960), an 84.5mm specimen from Punta San Antonio, Sonora, Mexico (AbS 80-71).

Genus *Crossata* Jousseaume, 1881

*Crossata californica californica* (Hinds, 1844), California  
*californica sonorana* (Berry, 1960), Baja California  
*ventricosa* (Broderip, 1833), Ecuador & Peru

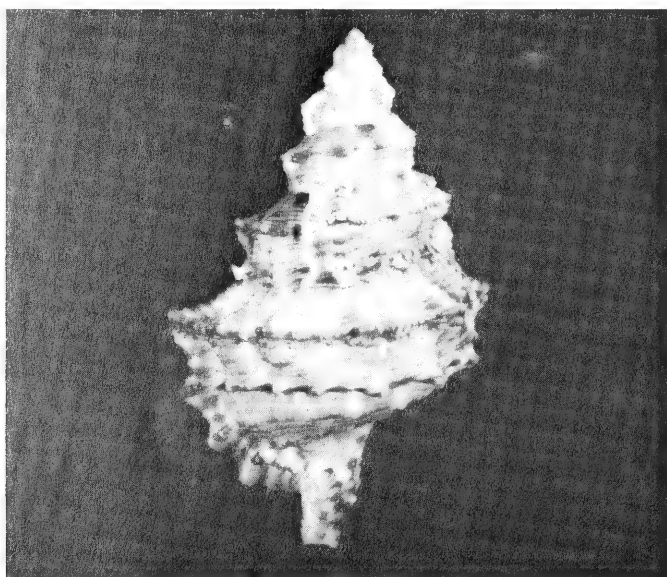


Fig. 53. *Tutufa (Tutufa) tenuigranosa* (E.A. Smith, 1914), a 60.8mm specimen from Balicasag I., Bohol, Philippines (AbS 85-1007).

Genus *Tutufa* Jousseaume, 1881

Subgenus *Tutufa* Jousseaume, 1881

*Tutufa (Tutufa) bardeyi* (Jousseaume, 1894), N. Indian Ocean

*bubo* (Linné, 1758) Indo-West Pacific

*bufo* (Röding, 1798), Indo-West Pacific

*tenuigranosa* (E.A. Smith, 1914), N.W. Pacific

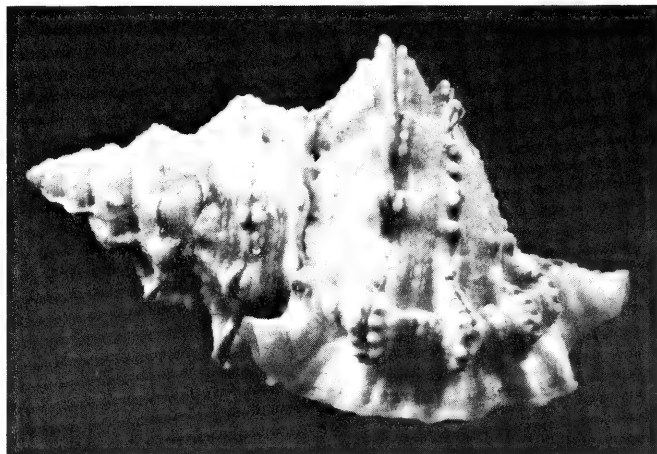


Fig. 54. *Tutufa (Tutufella) oyamai* Habe, 1973, a 59.9mm specimen from Balicasag I., Bohol, Philippines (AbS 85-626).

Subgenus *Tutufella* Beu, 1981

(=*Lampas* Schumacher, 1817, not of Montfort, 1808)

*Tutufa (Tutufella) nigrita* Mühlhäusser & Blöcher, 1979, W. Indian Ocean

*oyamai* Habe, 1973, W. Pacific & N. Indian Ocean

*rubeta* (Linné, 1758), Indo-West Pacific

n.sp., Philippines.

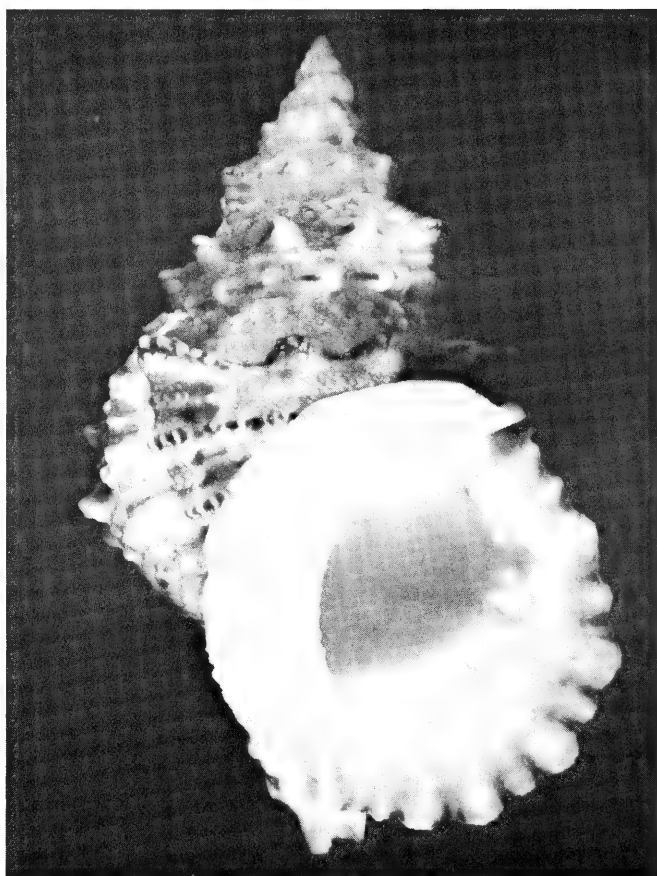


Fig. 55. A new, soon to be described species of *Tutufa (Tutufella)* from Panglao, Bohol, Philippines (AbS 85-255; 118mm).

## C.O.A. GRAND TROPHY WINNERS

**West Coast Shell Show, Santa Barbara, CA, Oct. 12-13, 1985**

**Winners: Bob Foster & Charles Glass**

**Title of display: Cowries, the Porcelain Shells**

The 16ft display consisted of 4 free standing, black velvet lined cases containing over 450 cowries, including *Cypraea barclayi*, *bernardi broderipii*, *burgessi*, *fultoni*, *leucodon* and *teramachii*, with habitat photos of several live shells and facsimile models of live animals. The *Cypraea iutsui* also took the trophy for "Shell of the Show". This is the 7th time in the last 7 shows that Foster & Glass have won the C.O.A. Grand Trophy. Judges were Anthony D'Attilio of the San Diego Natural History Museum, Ruth Greenberg of Tidepool Gallery (and a past-president of the C.O.A.) and Paul Scott of the Santa Barbara Museum of Natural History.

Foster & Glass are editors of this bulletin and owners of The Abbey Specimen Shells.

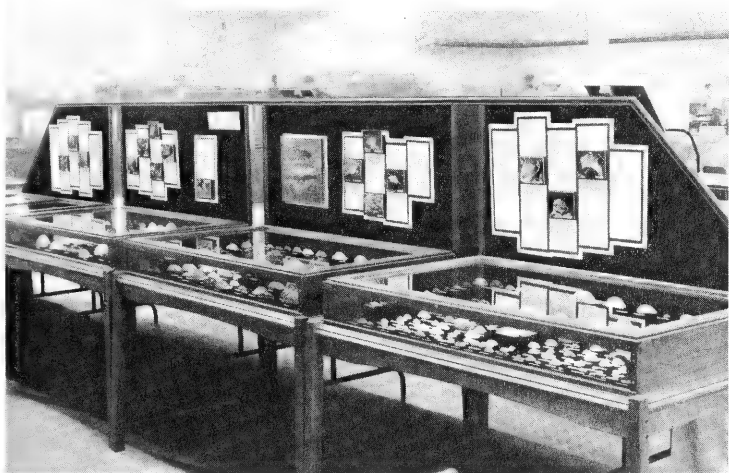


Fig. 1. The prize winning cowry display at the West Coast Shell Show. Photo by John Flentz.

**Gulf Coast Shell Show, Panama City, FL, October 4-6, 1985**

**Winners: Sue and Bill Vaughan**

**Title of display: Collecting Seashells Around the World**

An eight case, one aquarium display, with video, of multifamily world wide shells.

The Vaughan's, members of the Georgia Shell Club, have been collecting since 1978. Their interests are in all marine families. When exhibiting they strive to provide maximum educational value to the public in displays that tell the story of shells.

### C.O.A TROPHY GIFT CERTIFICATES

from ANN JOFFE

C.O.A. Trophy Chairperson

As the 1985 Shell Show Season draws to a close, I would like to thank all the donors of trophy gift certificates.

Without their generosity, The C.O.A. Trophy would be just like any other. It is these gift certificate booklets that really make this award so special and so much in demand by exhibitors. I hope that you will all realize how much they do to help with the good will that makes up a special part of C.O.A., and how much their contributions do to make the C.O.A. Trophy such a prestigious award.

**Kirk Anders, Kirk Anders Travel**

**Shells of the Sea**

**New York Shell Club**

**Bea Sweet, The Blue Mussel**

**Marty Gill, Shamaron Shells**

**Phillip Clover**

**Steve Long and Sally Bennett, Shells and Sea Life**

**Bob and Betty Lipe, The Shell Store**

**R. Tucker Abbott, American Malacologists**

**Donald Dan**

**David Luchow, Shellshock**

PRESIDENT: (cont. from page 54)

One is the Long Island Shell Club, which will use their money to help them publish a monograph of the Shells of Long Island. This is a very ambitious undertaking, not to mention time consuming, but one that we felt certainly deserved to be recognized as a major conchological endeavor. We certainly await the published results, and wish them much success. The other money went to the Smithsonian Institution in Washington, D.C. It was requested by Dr. Clyde Roper, who is the head of the department of Invertebrate Zoology. The money will be used to help defray expenses for a qualified visiting graduate student to pursue their studies by using the facilities that the Smithsonian, has to offer. This award will be handled entirely by the Smithsonian, with a year end report made to the board as to where and how the money was used.

I am very proud of the fact that the C.O.A. is now in a financial position to offer money grants to deserving recipients. In this vein, I have appointed Richard Forbush as chairman of this newly formed venture. Any inquiries, requests, or information should be mailed to his attention.

Plans are well underway for the 1986 C.O.A. Convention in Fort Lauderdale Florida. The Convention will be held from Tuesday, July 15th through Saturday, July 19th, ending with the banquet Saturday night. It will be at the Sheraton Yankee Trader on Hwy. A1A, right on the beach. Rooms will be only \$49.00 (+ tax) for 1-4 people . . . can't beat \$12.25 a night if you have 3 good shelling buddies! Forms and further information will be included in the March Bulletin, but circle your calendar and start planning now for July in Fort Lauderdale.

### SHELL SHOW CALENDAR

#### JANUARY

**Central Florida Shell Show, Jan 17-19, 1986**

Orlando, Florida (contact: Les Easland, 5803 Fernhill Drive, Orlando, FL 32808 305:298-2813)

**Southwest Florida Shell Show, Jan. 17-19, 1986 (For Myers Shell Show)**

Exhibition Center on Edwards Drive, downtown Ft. Myers, Florida (contact: John Vaughan, Box 05962, Tice, FL 33905: 813:693-1913)

**Greater Miami Shell Show, Jan. 23-26, 1986**

Miami, Florida (contact: Norris McElia, 905 N.W. 15th Ave., Miami, FL 33125 305:642-1504)

**Astronaut Trail Shell Show, Jan. 24-26, 1986**

Melbourne Auditorium, Hibiscus Blvd. just off U.S. Hwy #1, Melbourne, FL (contact: Jim & Bobbi Cordy, 385 Needle Blvd., Merritt Is. FL 32953 305:452-5736)

**Broward County Shell Show, Jan. 31-Feb. 2, 1986**

Pompano Beach, Florida (contact: Jean Andrews, 451, S.E. 15th Ave., Pompano Beach, FL 33060 305:782-2837)

#### FEBRUARY

**Naples Shell Show, Feb. 14-16, 1986**

Naples, Florida (contact: Terry Fitzgerald, 660 York Terrace, Naples, FL 33942 813:598-2579)

**St. Petersburg Shell Show, Feb. 15-16, 1986**

St. Petersburg Florida (contact: Bob & Betty Lipe, 440 75th Ave., St. Petersburg Beach, FL 33706 813:360-0586)

**Sarasota Shell Show, Feb. 21-23, 1986**

Sarasota, Florida (contact: Peggy Williams, Rt. 8, Box 28A, Sarasota, FL 34243 813:355-2291)

#### MARCH

**Sanibel Shell Fair, Mar. 6-9, 1986**

Sanibel, Florida (contact: Dorothy Putnam, Sanibel Community Center, P.O. Box 72, Sanibel, FL 33957; 813:472-2155)

**Marco Island Shell Show, Mar. 12-13, 1986**

Marco Island, Florida (contact: Vera Wooley, 930 Montego Court, Marco Island, FL 33937 813:394-1098)

#### APRIL

**Palm Beach Shell Show, Apr. 3-6, 1986**

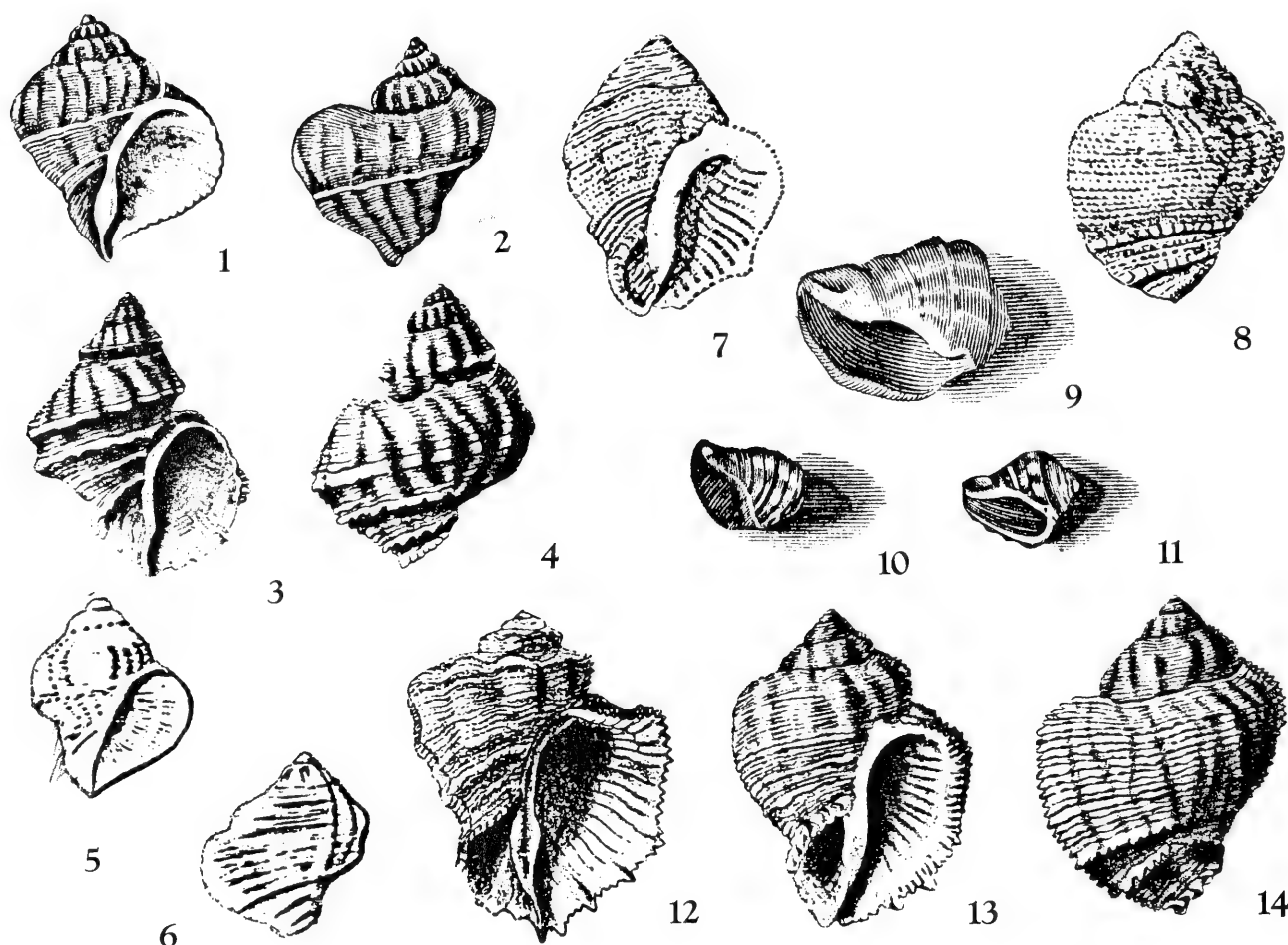
West Palm Beach, Florida (contact: Phyllis Diegel, 143 Alcazar Street, Royal Palm Beach, FL 33411 305:798-5351)

**Georgia Shell Show, Apr. 11-13, 1986**

Atlanta, Georgia (contact: Carl & Rene Beeler, 1868 Gainsborough Drive, Chamblee, GA 30341 404:451-2221)

**St. Louis Shell Show, Apr. 18-20, 1986**

St. Louis, Missouri (contact: Alan Gittleman, 4045 Central Lane, Granite City, IL 62040 618:931-1312)



# NOTES ON CORALLIOPHILA ABBREVIATA (LAMARCK) AND GALEA (REEVE)

by SADAŌ KOSUGE

Institute of Malacology of Tokyo

*Coralliophila abbreviata* (Lamarck, 1816) has been applied to the species from the Caribbean Seas as shown in the following literature.

- 1836 Kiener, Sp. Gén. Icon. Coq. viv., pp. 75-77, pl. 19, f. 56.
- 1890 Dall, Trans. Wagner Free Inst. Sci., 3: 157.
- 1939 M. Smith, Illust. Cat. Rec. Sp. Rock Shells, p. 31.
- 1958 Abbott, Monogr. Acad. Nat. Sci. Philad., No. 11, pp. 65-66, t-f. 3, pl. 1, f. e.
- 1961 Warmke & Abbott, Carib. Seashells, p. 109, pl. 20, f. e.
- 1963 Shikama & Horikoshi, Select. Shells World, 1: 77, pl. 62, f. 17.
- 1978 D'Attilio, Festivus, 10 (10): 72.
- 1981 Eisenberg, Coll. Guide Seashells World, p. 96, pl. 78, f. 1.
- 1982 Abbott & Dance, Comp. Seashells, p. 156, f.
- 1982 Abbott, Stand. Cat. Shells, 15-301.
- 1982 Clover, Latiaxis Cat., sp. 1, pl. 1, f. 1.

In the present notes, I present some problem about its identification under the following lines.

Lamarck (1816) established *Pyrula abbreviata* in his "Encyclopédie Méthodique" based on the figures 2a-b of plate 436, which re-

Text-figs. 1-20.

figs. 1-2, *Pyrula abbreviata* Lamarck (original figures from Lamarck, 1816); figs. 3-4, *Pyrula deformis* Lamarck (from Kiener, 1836); figs. 5-6, *Cantharus erosa* Roeding (from Chemnitz, 1785); figs. 7-8, *Pyrula galea* Chemnitz (from Chemnitz, 1785); figs. 9-11, *Pyrula abbreviata* Lamarck (from Lister); f. 12, *Purpura galea* Reeve (original figure); figs. 13-14, *Purpura abbreviata* Lamarck (from Kiener, 1836); figs. 15-18, *Coralliophila erosa* (Roeding) (figs. 15, 16, 18 from Philippines, f. 17 from Red Sea); figs. 19-20, *Coralliophila galea* (Reeve) (from Caribbean Sea).

produced in this paper, and gave its description in his "Animaux sans Vertèbres" (1822) referred the following figures.

Lister, Conch., t. 896, f. 16.

Chemnitz, Conch., 10, t. 160, figs. 1518, 1519. (*Murex galea*)

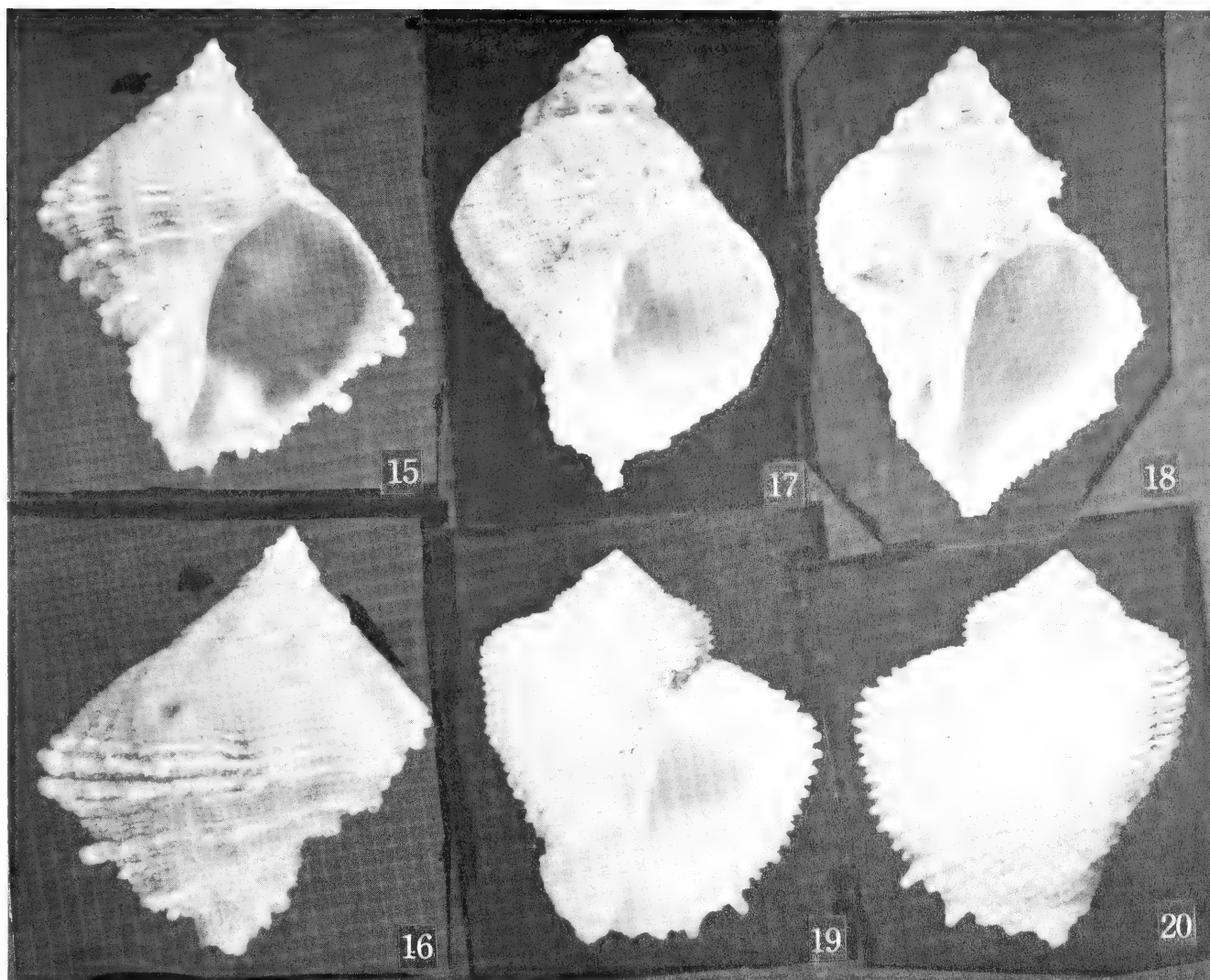
Lamarck, Encyclop., pl. 436, figs. 2a-b. (above mentioned)

These figures are also reproduced in the present paper.

Lamarck's figures (1816) are different from *C. abbreviata* authors of the Caribbean Sea in its high conical spire, rounded shoulder of the body whorl, broad and well elevated axial ribs on the whorls, and prominent, sharp spiral ridge below the shoulder of the body whorl. These features are very similar to *C. erosa* (Roeding, 1798), of which referenced figures (Chemnitz, Vol. 3, pl. 100, figs. 954, 955) are also reproduced here. On the contrary, the figures presented by Lister, which are referred by Lamarck as "*abbreviata*" is rather similar to the Caribbean form.

Blainville (1832) examined and described Lamarck's species, and he mentioned that the inside of the aperture of *P. abbreviata* Lamarck more or less stained with violet coloration, which is found in *C. erosa* and not in the Caribbean form.





Kiener (1836) revised Lamarck's specimens and gave the descriptions and figures of each species, he figured two forms of shells as "*abbreviata*", in which the specimen of figure 56 is identical with the Caribbean form and the other of figure 56a is "*deformis*", which was treated as a variety of "*abbreviata*" by Kiener and now recognized as the synonym of *C. erosa*. He also involved *P. brevis* Blainville, 1832 in the variation of "*abbreviata*".

Reeve (1846) figured *P. galea*, which referred the following names:

Chemnitz, Conch., Vol. 10, p. 237, pl. 160, figs. 1518, 1519.

*Purpura abbreviata* Lamarck.

*Purpura abbreviata* Kiener.

His figure seems to be identical with the Caribbean form, but the actual specimens found in the Collection of British Museum (Nat. Hist.) did't (comm. by Ms. K. Way).

I think that it is reasonable to treat *P. abbreviata* Lamarck, 1816 as a form of *C. erosa* (Roeding, 1798) and the name of *P. galea* Reeve, 1846 must be applied to the Caribbean form (*C. abbreviata* authors).

Then their synonymies are as follows (all the type specimens cited in the following synonyms are figured in Kosuge (1985)).

***Coralliophila galea*** (Reeve, 1846) (figs. 19, 20)

Conch. Icon., *Purpura*, pl. 12, f. 65.

Distribution: Florida - Bahama - Lesser Antilles.

Synonyms:

1828 *Murex subglobosus* Wood, Ind. Test. Suppl., p. 15, pl. 5, f. 23.

1836 *Purpura abbreviata* Kiener (non Lamarck, 1816)

Sp. Gén Icon. Coq. viv., *Purpura*, pp. 75-77, pl. 19 f. 56.

1863 *Coralliophila nodulosa* H. and A. Adams, Proc. Zool. Soc. Lond., pp. 431-2.

1863 *Coralliophila undosa* H. and A. Adams, Ibid., p. 432. (type locality is error)

*Coralliophila abbreviata* authors. (as above mentioned)

***Coralliophila erosa*** (Roeding, 1798) figs. 15-18)

Mus. Bolt., p. 133.

Distribution: Indo-pacific (widely distributed from Hawaii to East coast of S. Africa and Japan to Australia; off the Pacific coast of Mexico)

Synonyms:

1816 *Pyrula abbreviata* Lamarck, Ency. Meth., pl. 436, figs. 2a-b.

1822 *Pyrula abbreviata* Lamarck, Hist. Nat. Anim sans Vert., p. 146.

1822 *Pyrula deformis* Lamarck, Ibid., p. 146.

1832 *Purpura abbreviata* Blainville, Nouv. Ann. Mus. Hist. Nat., 1: 233.

1836 *Purpura abbreviata* Kiener (part), Sp. Gé. Icon. Coq. viv., *Purpura*, p. 77, pl. 19, f. 56a.

1851 *Trichotropis dorbignyanum* Petit de la Saussaye, Jour. Conchyl., 2: 261-262, pl. 7, f. 56a.

1851 *Trichotropis dorbignyanum* Petit de la Saussaye, Jour. Conchyl., 2: 261-262, pl. 7, f. 2.

1854 *Rapana (Rhizochilus) suturalis* A. Adams, Proc. Zool. Soc. Lond., 1853, p. 98.

1854 *Rapana (Rhizochilus) fragilis* A. Adams, Ibid., 1853, p. 98.

1854 *Rapana (Rhizochilus) coralliophila* A. Adams, Ibid., 1853, p. 98.



1860 *Rhizochilus exaratus* Pease, Ibid., p. 399.

1919 *Coralliophila (Rhizochilus) stearnsiana* Dall, Proc. U. S. Nat. Mus., 56: 339.

1977 *Coralliophila (Liniaxis) groschi* Kilburn, Ann. Natal Mus., 23(1): 191, figs. 19-20.

There is another related species from the Tropical Pacific, which was figured in Hinton (no publishing date: pl. 39, f. 5).

It is similar to the figure of *P. galea* Reeve in its angulate shoulder and broad, low axial ribs on the whorls, but it differs in its equal sized spiral cords on the body whorl, lack of lirae inside the aperture and deep violet coloration on the columella and within the aperture. In *C. galea*, it has several sharp, prominent spiral cords on the base of the body whorl, which produced small, sharp projections on the edge of the outer lip, this feature is well figured

in Reeve (1846) and Kiener (1836). On the contrary, the former species has almost equal sized, imbricated, spiral cords on the body whorl, which alternate with minute ones, and has no prominent, stronger ones as that of *C. galea*.

I wish to express my hearty thanks to Ms. Kathie Way, British Museum (Nat. Hist.); Dr. Katsura Oyama, Toba Aquarium, Toba; Dr. Philippe Bouchet, Museum National d'Histoire Naturelle, Paris and Dr. Roland Houart, Societe Belge de Malacologie, for their kind assistance in the material and literature.

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(Other references are in the text)

#### MUREX MARTINETANA: (cont. from page 54)

have been found species with either no radula or with only vestigial traces of a radula. In the Order Neogastropoda to which the family Muricidae belongs, the family Coralliophilidae have been found to lack a radula. (Thiele, 1929; Gohar and Soliman, 1963; Purchon, 1968; Robertson, 1970. Radwin (1971) advised he had searched for a radula in more than a dozen specimens of several species of *Colubraria* with no positive results. Ponder (1973) state "it appears that some Colubrariidae have lost the radula and that it is relatively small or vestigial in the remainder." *C. coccyxginus* Smith, 1967, besides lacking a radula, also lack a poison gland and salivary gland. In the Terebridae several species are known to lack a radula and poison gland. (Miller, 1975; Risbec, 1953).

To our knowledge, this is the first muricid known to lack a radula. Information as to the feeding mechanism is lacking. The only habitat information we have was supplied by Lori Bell Colin who advised she found her specimen under a dead *Acropora* sp. Examination of the gut content of the specimen in figure 1, which had been in alcohol for only a few days revealed microscopic soft pellets of undetermined origin.

Examination of the operculae of the specimens of *Murex martineta* indicates that it is muricine, unguiculate with a terminal nucleus (fig. 2).

The morphology of this species has a number of characteristics

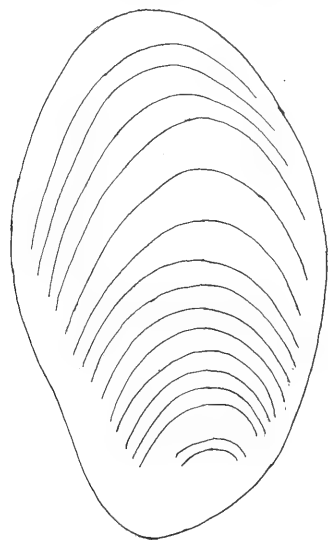


Fig. 2. Detail drawing of the operculum of *M. martineta*.

which seem to align it with more than one group. The apertural characters are similar to *Muricopsis* Bucquoy and Dautzenberg, 1882 and to some species of *Pterynotus* Swainson, 1833, with dentate inner and outer lips. The elaborate spines and digitations have influenced some authors to place *Murex martineta* in *Homalocantha* Morch, 1852, but *Homalocantha* has an ocenebrinae operculum and the siphonal canal is often closed.

We have concluded from the above and especially because of the lack of radula that the generic placement of this species remains doubtful.

#### ACKNOWLEDGEMENTS

We are grateful to all those mentioned for the loan of specimens used in the search for the radula of *Murex martineta*. We also thank Charles Glass for the photography used in this paper.

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## SHELLS IN PRINT

by RICHARD L. GOLDBERG

This is a continuation of the last Shells in Print column that appeared in Vol. 12, No. 4 [December 1984] of the COA Bulletin, highlighting various shell publications and journals that have crossed my desk recently. The following journals and newsletters are published by our fellow shell clubs around the world that might be of interest to you.

**KEPPEL BAY TIDINGS**, published six times per year by the Keppel Bay Shell Club, is a slick eight page newsletter covering shells and shell collecting in Australia. The members of this shell club are quite active collectors, and there is always interesting articles on collecting trips to many of the hot spots around the Australian coast. Illustrations of many new and undescribed species occasionally appear. The February/March 1984 issue even included color photographs of some reputedly undescribed species of Volutes from deep water off the Queensland coast. A few articles dealing with Australian non-marine mollusks have appeared too. For those interested in Australian shells, this newsletter is highly recommended. You can write the Keppel Bay Shell Club at P.O. Box 5166, Rockhampton Mail Centre, Queensland 4702, Australia.

**The British Shell Collectors' Club** [c/o 12, Third Avenue, Grantham, NG31 9TR, England] publishes a quarterly newsletter called *Pallidula* with a variety of interesting conchologically related articles in each issue. Land as well as marine shells are covered. Articles on shell stamps have appeared frequently. The members of the B.S.C.C. are active collectors, and there is a lot of information relative to shelling activities, publications and local shell shows to keep you up-to-date in the shelling world. If you have been looking for a way to get in contact with our fellow collectors in Great Britain, the British Shell Collectors' Club, and *PALLIDULA* is probably the best way!

If you have been looking for a great birthday, anniversary, etc. gift to give your favorite shell collector, why not a membership and subscription to the Conchologists of America, and its Bulletin! Needless to say, that they will be getting four cram-packed issues per year of great shell collecting articles and highlighting a wide variety of marine and land shells. In the organization's spirit of "A collective devotion to advancing Conchology" articles will keep the COA's members up-to-date with the latest on all fronts of the shelling world. For further information, see the inside cover of this issue.

**CARFEL PHILIPPINE SHELL NEWS** is a privately printed publication, issue six times per year, dealing as the name says, with shells of the Philippines. This slick 12 page newsletter is probably the best source for shelling news of this area. Articles cover marine and land shells, and are illustrated with color and black and white photographs. Most articles deal with collecting areas, various shell families, and new species. The cover always has a color photograph of a spectacular new find or live mollusk. Occasionally articles covering other areas of the shelling world will appear. You can obtain further information by writing Carfel Philippine Shell News, 1786 A. Mabini Street, Malate, Manila, Philippines.

I have received many letters over the past year asking if there is any book available dealing with land shells. Unfortunately, there is a paucity of titles on the non-marine mollusks, I guess due to the fact of the lack of interest in them; and the lack of interest in them ironically is due to the lack of books on them! In the last Shells in Print article I mentioned *Colored Illustrations of the Land Snails of Japan* by Masao Azuma. This book deals exclusively with Japanese land shells, but there are a number of other books that include land shells as part of its text.

One of the most comprehensive books on New Zealand non-marine mollusks is **NEW ZEALAND MOLLUSCA** (Marine Land & Freshwater Shells) by A.W.B. Powell [William Collins Publishers Ltd., 1979]. This book is the American Seashells of New Zealand, only going further into the land and freshwater shells. Full descriptions and excellent photographs (both color and black & white), and line illustrations make this the best popular identification source for

the New Zealand non-marine shells. It covers all of the known species to the date of publication. The price is rather high, but getting a complete coverage of both marine and non-marine shells should offset its cost.

**GUIDE TO SHELLS OF PAPUA NEW GUINEA** by Alan Hinton [Robert Brown & Associates Pty., Ltd., ], has 5 of its 68 plates dealing with land shells of this region. The plates are in color and have a heavy concentration on the Papuininae of the Family Camaenidae. There are no descriptions though, just the Latin name and general locality. In some cases, such as with the smaller species illustrated, it is very confusing and mimics other similar species.

For those collectors with an interest in both marine and non-marine shells of Japan, **SHELLS OF THE WESTERN PACIFIC IN COLOR**, Vol. I by T. Kira, and Vol. II by T. Habe, might be a good source. Vol. I has 4 plates covering land and freshwater shells in color, with full descriptions. Vol. II also has 4 color plates, but mostly on land shells. If you are interested exclusively in Japanese non-marine mollusks, this is an expensive proposition just for a hundred or so illustrated species, but as a comprehensive coverage of the marine shells with a fair coverage of non-marine species, this would be a worthy investment. As mentioned before, if your interests are exclusively with the land shells of Japan, Azuma's *Colored Illustrations of the Land Snails of Japan*, is a must (if you can track it down)!

If you have an interest in European land shells, I would unequivocally suggest **A FIELD GUIDE TO THE LAND SNAILS OF BRITAIN & NORTH-WEST EUROPE** by Kerney and Cameron [William Collins Sons & Co., Ltd., 1979]. This book deals exclusively with the Western European land mollusca, with full and detailed descriptions of the species, synonymy, distributions, habitats, as well as superb color and black & white illustrations. There are two versions of this book, the English language and a more current foreign language version. The latter is supposed to have some additions, but I have not seen a copy to date. Either one will provide a wealth of information on European land shells.

**FIELD GUIDE TO THE NON-MARINE MOLLUSCS OF SOUTH EASTERN AUSTRALIA** has a limited scope, but is quite useful for shells of that range. Written by Brian J. Smith and Ron C. Kershaw, both eminent malacologists in Australia, the text and illustrations are very comprehensive. Full nomenclature, synonymy, descriptions, range and habitats are given, as well as keys for identification. I have found this book extremely useful, even though the shells are pictured with high quality line illustrations.

I have mentioned this before in previous Shells in Print columns, but for those of us who are patient, we have at least Dr. Abbott's book on land shells to look forward to. It will be based on his highly successful *Compendium of Seashells*, and will cover a plethora of the larger shells. Tucker has told me there will be complete coverage of the popular *Helicostyla* tree snails of the Philippines. I have also seen some of the photographs to be included in this book, and I project this to be one of the best popular identification guides for land shells. I have not heard when it is expected to be published, but probably not for some time, but again, well worth waiting for!

And finally, I must make mention about a publication printed in late 1984, dealing with the identification of land shell genera. "**Land Snails — A Shell Collector's Guide**" by Irene Jewett, is a privately printed, 69 page booklet, that is useful in placing those unidentifiable species into the proper genera and Family. The introduction gives a short overview of the land shells, and a guide to using the booklet. The text covers 161 world wide pulmonate genera, which are fully described and illustrated with excellent line drawings.

The systematic layout of this booklet is helpful in learning the placement of various genera in the proper Family, something that is very confusing when first starting with land shells. The basis for this guide (both identifications & illustrations) was from the Smithsonian Institution collection. Irene has been a collector for the past 20 years, and spent two years working for the late Dr. Rosewater as a museum aide in the Smithsonian's mollusk division, while attending college. After finishing school, she started working profes-

sionally as a science illustrator at the Smithsonian's Natural History Building, and currently at the Naval Research Laboratories.

This booklet is a must for the serious land shell collector. Even though you cannot identify species with it, you can at least narrow the unidentified specimen to roughly the proper Family and genus ... a great help to say the least! I did not have a cost for the booklet or its current availability at this writing, but for further information you can write: Irene F. Jewett, 15902 Crest Drive, Woodbridge, VA, 22191.

## Helpful Hints for Collectors

by MINICYP

### Storage

Every collector has the problem of how to store their collection. I suspect that one of the reasons stamp collecting is so popular is that the collector can purchase a wide assortment of ready made storage containers (albums) and you can store an awful lot of stamps in a relatively small space. You can also, quite easily and cheaply, make your own albums. With shell collecting the storage problems are not quite so easily solved. The author, in all truth, has not solved his own storage problems so this article will be a case of don't do as I do but do as I say.

The ideal shell storage facility should satisfy a number of different, and not necessarily compatible, requirements. The primary requirement of a shell storage facility is to protect the shells from damage. The second requirement is to provide the collector with easy access to his shells. The third requirement is to provide for easy retrieval of a particular shell or shells. Finally it is desirable, at least for many collectors, to be able to display their shells in an esthetically attractive manner without removing the shells from their storage.

Let's look at each of these storage requirements individually. Protection of ones shells from damage covers the obvious protection from mechanical damage. Probably the most generally used procedure to protect shells from mechanical damage is to place each individual shell in an open padded cardboard box. The cardboard box, in turn is placed in a larger storage container. The most common padding is cotton with plastic foam being the second most common choice. More about plastic foam later. The open box makes for easy viewing of the shell and is not unattractive. This approach minimizes the chance of shells knocking against each other or other hard objects. They can be viewed without handling which lessens the chance of dropping the shell. Smaller shells can be placed in glass vials. Closed plastic (clear) or cardboard boxes with clear plastic covers can also be used. The use of closed containers is probably the best, and also the most expensive, way of minimizing mechanical damage.

There are several other possible forms of damage which sometimes are not recognized. The colors in all shells fade, to greater or lesser extent, with time. This fading is accelerated by both light, particularly ultra-violet, and dryness. A shell kept in the dark and moist will fade the least. Keeping the shell in the dark is not too much of a problem. Keeping a shell moist or at least in a high humidity atmosphere is difficult and probably results in more problems than it will solve. The problems, molds and mildews both of which can physically damage a shell. Thus it is best to keep shells in an atmosphere with a relative humidity where molds and mildews will not form. If this is not possible as is true in many tropical and subtropical climates (also in basements in temperate climates) then positive steps must be taken to prevent molds and mildews. Closed storage containers and/or anti mildew dip help here. We sort of wandered away from the fading problem. Actually unless the atmosphere is very dry the fading problem, for most shells, will be minimal.

Another enemy of color is temperature. High temperature will accelerate color loss. Temperatures over 300°F (150°C) will destroy the color in many shells. We are generally talking long term exposure to temperatures over 100°F (38°C). Normal home temperatures are generally not a problem. Actually if you store your

shells in the dark with the temperature and humidity in the people comfort zone there will be little or no fading of practically all shells.

High temperatures combined with dryness will also result in mechanical deterioration (cracking and powdering) of some shells. Again we are talking temperatures consistently over 100°F.

Chemical damage to shells is also possible. Sources of chemical damage can include some plastic foams, finger prints, newspaper and even the air. The culprit will be an acid of some sort. Some of the plastic foams decompose with time, when they decompose some sort of an acidic material is released. The nacre of species of cowries, olives, marginella, etc. exposed to such foams will show dulling with time. So far I have not seen any identification of either the problem foams or the safe foams. (If any reader has information on this subject drop me a line). So if you have used foam as a padding it is wise to check your shells from time to time to be sure you do not have a problem. Better yet do not use foam or padding when storing your shells. Short term use of foam should present no problem.

Wrapping shells in newspaper, for storage, can result in a similar problem. All newspaper has some acid content so there is no newspaper that is safe to use for long term storage of shells. Short term use, a few months, will probably not cause a problem. Some peoples fingerprints are also acid. Wipe your shells off before you put them away. Wiping your shells off removes fingerprints, dust, dirt, etc. and thus helps to preserve your shells.

Probably the ideal storage for shells would be to place them in acid free cardboard boxes padded with cotton and cover the box with a clear plastic cover. The boxes would then be stored in a closed container (drawer, shoebox or what have you) and kept in a human comfortable atmosphere. The shell should be washed dried and cleaned of all organic matter before storage. In other words store your clean shell in a box (or vial) by itself in a drawer in a cabinet in your living quarters. I have seen shells stored in lesser conditions that looked pretty good after 30 or 40 years of storage. I have also seen ones stored, without proper precautions, that look pretty bad after a year.

Over the years I have seen shells stored in almost every way one can imagine. One collector kept his shells wrapped in newspaper in grocery bags. It was a very nice collection but viewing it was a disaster. I understand that, from time to time, the collector dumped his shells out on a table, unwrapped them all, admired or studied them and then reversed the process. From this extreme we go to the custom made walnut cabinets with glass topped compartmented drawers. In one case the cabinetwork was more impressive than the shell collection it housed. However in both cases the storage facilities met the needs of the collector which is what really counts in the end.

Most of us like to be able to show off our collection to friends and fellow collectors. We like to be able to find that certain shell quickly and without tearing everything apart. We also like to avoid too many space conflicts (some are inevitable) with the spouse and children. These are the other aspects of shell storage.

Probably the easiest way to store the shells in their boxes is in single layers in drawers. By using a single layer access problems are avoided. You don't have to move boxes around to find the shell you are looking for. People can view your collection without taking things out of the drawer. This approach gives a very neat impression. A single layer-easy access easy viewing.

Retrieval is another matter. Setting up your retrieval system so that you can quickly find a particular shell is the proper subject for another article. However in planning your storage facility allow lots of room for future expansion. Nothing can louse up a good retrieval system faster than insufficient storage space. If you run out of room things start to become makeshift and the best of retrieval systems will fail. To make a retrieval system work there must be the space to put the shell where the retrieval system says to put it.

Drawers mean cabinets. I have seen all sorts of cabinets used to keep shell collections. Old dentist's cabinets are great. They both

make for great storage and are an attractive piece of furniture. Your spouse may even let you put it in the living room where it is easier to show off your collection. Either antique or modern map cases work well. Yield House (they sell furniture kits) has a map case kit that makes up into a very nice unit. Old thread display cases are different. Wooden or metal drawing files are good. The one problem with drawing files is the drawers get a bit too big and heavy to handle conveniently. Scientific supply houses carry a wide line of specimen storage cabinets. While they are first class they are usually quite expensive and do not make a nice piece of furniture. Of course custom made cabinets are the ultimate in storage units. They can be tailored to the space available, designed to meet your specific needs, made as plain or fancy as you want and go where you want them to go.

Avoid compartmented drawers. They lack flexibility. Don't try to make your storage drawers your show display cases. To do this either results in an inefficient use of space or a problem of what to do with the stored shells when you want the drawers for show cases.

There are one hundred and one ways of storing shells. Your storage facilities can be as simple or as fancy as you want to make them. The intent of these hints is to give you some ideas. If you have some great storage hints let's hear about them.

Next a collector's library. Until then good shelling.

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OF  
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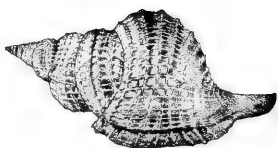
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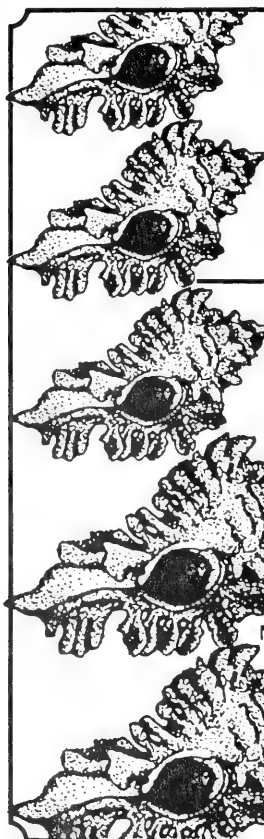
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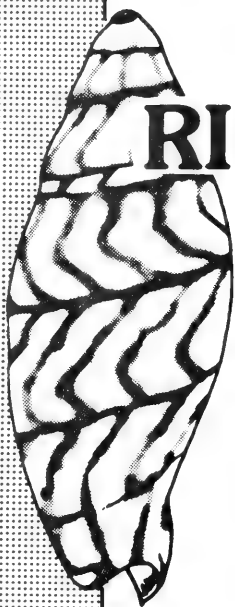
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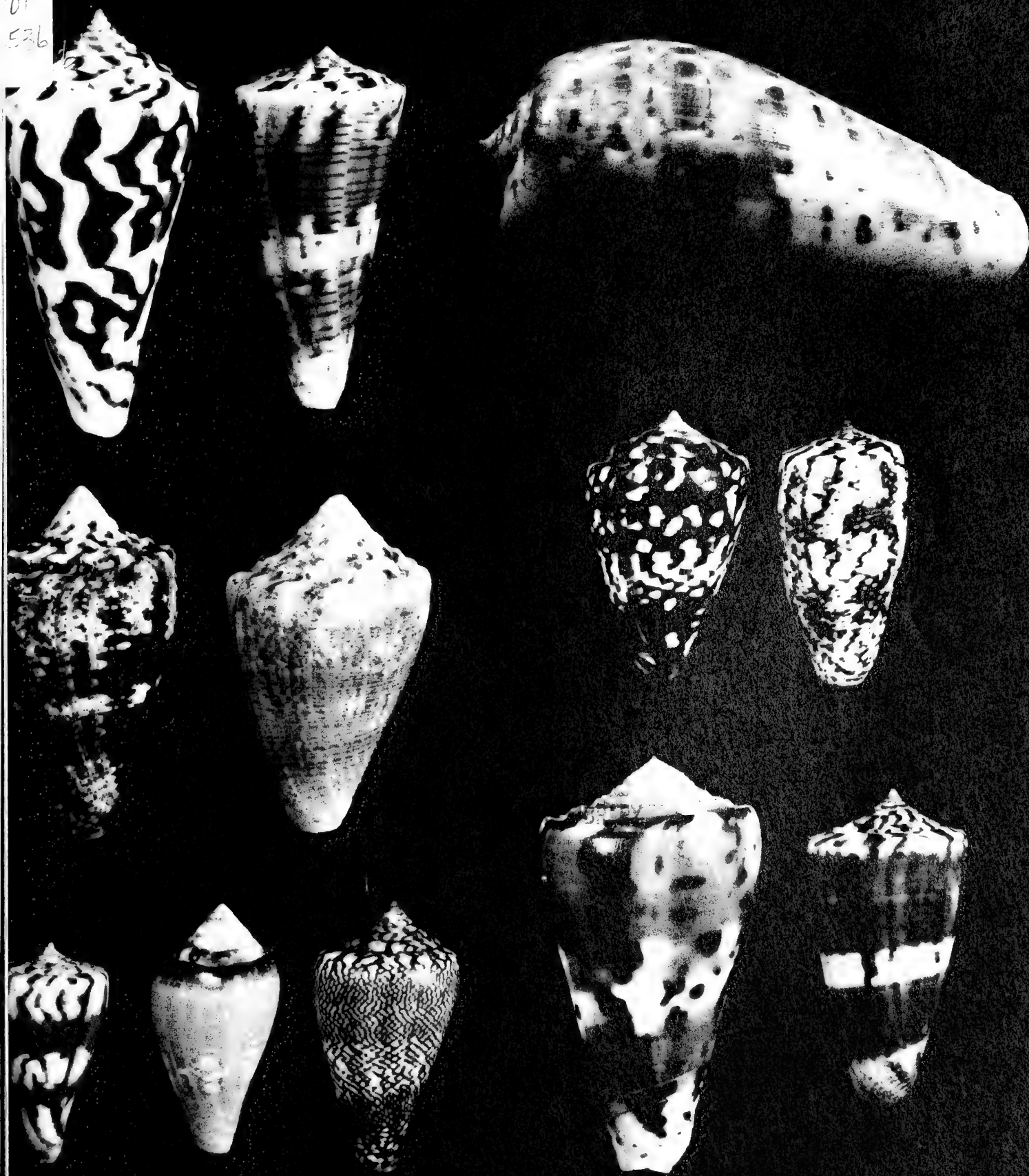
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# CONCHOLOGISTS OF AMERICA BULLETIN

VOL. 14, NO. 1

MARCH, 1986





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COVER PLATE: Cone shells, left to right, top row: *Conus recurvus*, *C. shikamai*, *C. bullatus*; middle row: *C. regius*, *C. regius* ("citrina" form), *C. ateralbus*, *C. cuvieri*, bottom row: *C. capitaneus*, *C. mercator miser*, *C. delanoyi*, *C. barthelemyi*, *C. excavatus*. Photos courtesy of the Abbey Specimen Shells.

## CALIFORNIA SEASHELLS PART XI: TRIVIIDAE

by C. GLASS & R. FOSTER

*Trivia (Pusula) californiana* (Gray, 1827)

*Trivia (Pusula) solandri* (Sowerby, 1832)

*Pusula padreserrai* Cate, 1979

Originally described as *Cypraea*, these species were subsequently separated in the closely related family, Triviidae. The triviads are most readily separated from the cowries by the transverse ribs and a longitudinal, medial, dorsal furrow . . . though a few *Cypraea* species, such as *C. granulata*, could give one pause!

The shells could be described as grayish purple with grayish white ribs and knobs. *T. solandri* is the larger of the two species, to 16mm long, whereas *T. californiana* is only 9-11mm long.

The northern end of the range of *T. solandri* is usually given as San Pedro (Los Angeles), California. We have collected both species growing together around the northern Santa Barbara Channel Islands of Anacapa and Santa Cruz. They are usually found on rocks and quite hard to discern with their papillate mantles up! We have specifically found the two species cohabitating

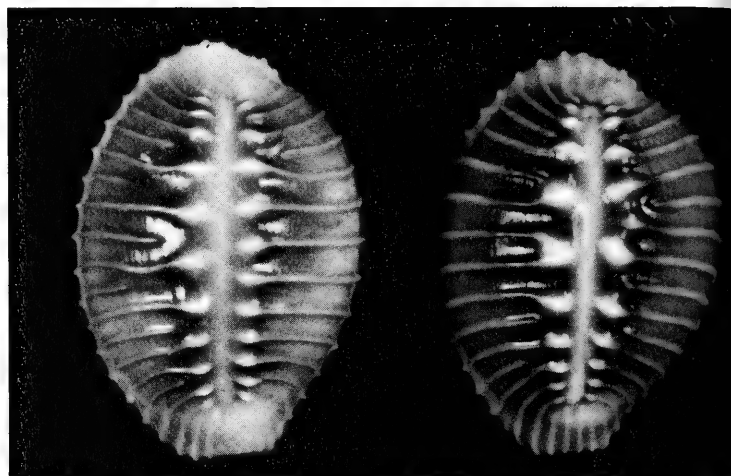


Fig. 1. A 17.2mm specimen of *Trivia (Pusula) solandri* from 20-30ft. on rocks, Chinese Harbor, Santa Cruz Island, southern California (AbS 86-034) and (right) a 17.6mm specimen (AbS 81-1290) also from Santa Cruz Is.



Fig. 2. *Trivia (Pusula) californiana*: left: a 10.8mm specimen (AbS 81-1379); center: an 8mm specimen (AbS 85-1039); right: 10mm specimen (AbS 86-035). The two specimens on the right were collected in March of 1985 in 20-30ft. on rocks in Chinese Harbor, Santa Cruz Island. The shell on the left, a few miles to the east.

the area between Scorpion Anchorage and Chinese Harbor, Sta. Cruz Island. We have also collected *T. solandri* near Guaymas in the Gulf of California. Indeed, Cate separates the northern population which he described as a new species, *T. padreserrai*, in his 1979 monograph of the family. He states that the California population differs "by having a much larger, lightweight shell; by being more widely, roundly ovate, rather than narrowly so . . . by having a subspherical, highly elevated shell in which the dorsal rib-ending tubercles are very much more fine, less obtrusive. The shell color is completely different, a mixture of pale fawnish-pink and beige, the colors of *P. solandri* being a characteristic mauve color . . .". We could not say that we have noticed, however, any appreciable or consistent difference in the shells from California and those from the Gulf, nor is *Pusula padreserrai* generally recognized as distinct.

The shells are generally listed as common or "not uncommon" . . . not where we've been diving!

### LITERATURE

Cate, Crawford N., 1979. A Review of the Triviidae (Mollusca: Gastropoda), Memoir 10, Society of Natural History, San Diego, CA.  
McLean, James James H., 1969. Marine Shells of Southern California, Los Angeles County Museum of Natural History, Science Series 24, Zoology No. 11.

### COWRY SWINGERS:

ITEM FROM A SHELL CLUB PUBLICATION, MAY 1983:

"Cowries are . . . bisexual which really leads to confusion when trying to separate male from female but it doesn't seem to bother them and they do quite nicely laying up to 500,000 eggs".

EDITOR'S NOTE: The traditional meaning of "bisexual" is "hermaphroditic", an individual possessing both male and female organs. A modern interpretation is: being attracted to members of both sexes . . . Some mollusks are, indeed, hermaphroditic, but to the best of our knowledge cowries are not bisexual . . . in either sense.

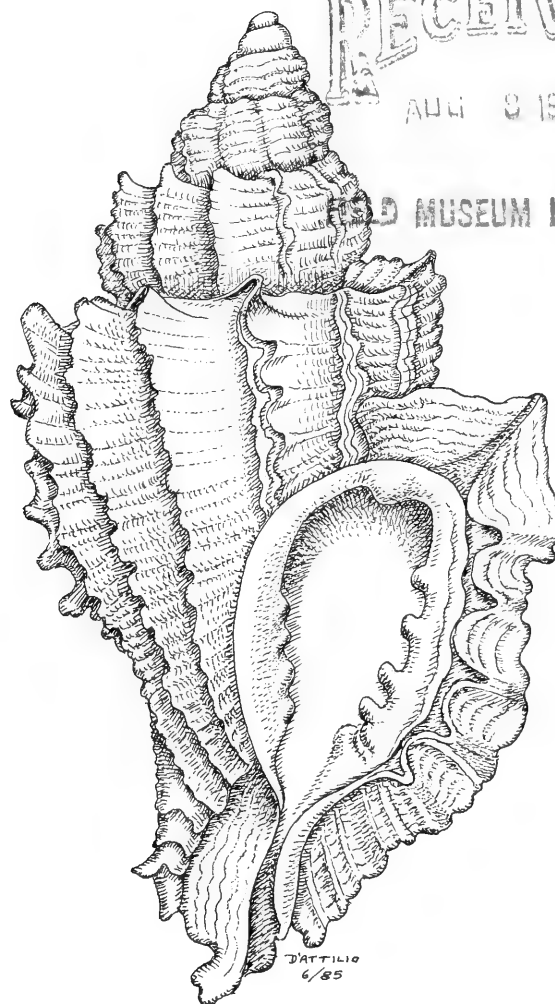
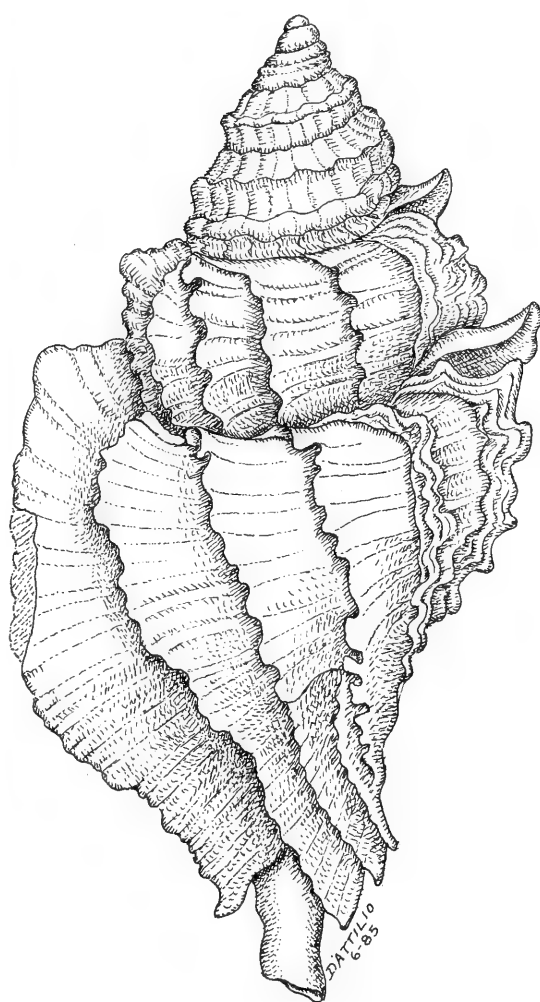


Fig. 1 & 2. Dorsal and ventral view of *Pygmaepterys oliverai* (Kosuge, 1984).

## ON THE GENERIC PLACEMENT OF *MURICOPSIS OLIVERAI* KOSUGE, 1984

by ANTHONY D'ATTILIO

Malacology Section at the San Diego Natural History Museum

This newly described species from Panglao, Bohol, Phillippine Islands, seems ill suited for placement in *Muricopsis* Bucquoy and Dautzenberg, 1882, the type of which is *Murex blainvillei* Payraudeau, 1826. Species which fit into this generic concept, except for their different protoconch, are mostly from the eastern and western side of the tropical area of North and South America. Into this group fall *M. oxytatus* (M. Smith, 1938) from the western Atlantic, *M. armatus* (A. Adams, 1854), *M. jaliscoensis* Radwin and D'Attilio, 1970, and *M. zeteki* Hertlein and Strong, 1951, *M. pauxillus* (A. Adams, 1854) from the eastern Pacific. These New World species differ principally in that most of them have a tabulate protoconch which in the case of *M. blainvillei* is low and convexly conical.

Farther afield, both geographically and morphologically, in the Indo-Pacific, are *M. orri* Cernohorsky, 1976, *M. planiliratus* (Reeve, 1845), *M. brazieri* (Angus, 1878), *M. bombayanus* (Melvill, 1893), and *M. cuspidatus* (Sowerby, 1879). Because of this striking diversity of their shell morphology, it is suggested here that generic placement for some species and a few others omitted in this list are assignable to *Muricopsis* with some question. This condition can, as in many generic groupings, be solved taxonomically in two

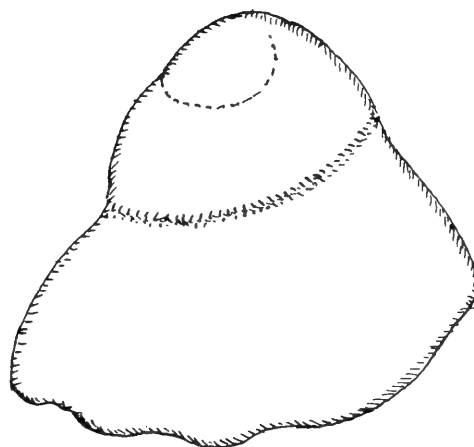


Fig. 3. Protoconch of *P. oliverai*, low conical.

ways: either the genus has to be divided according to the protoconch or else expanded to include such diverse species.

A number of these *Muricopsis* species have short to long spike-like extensions on the varices or, as in the case of *M. blainvillei*, the varical sculpture is hardly extended beyond that of raised or rounded, or more usually, pointed spine-like nodules. All species examined, regardless of the protoconch, have nodes or denticles within the aperture on the outer lip, and in a few there are nodes on the columnella wall.

The radula seems to vary little from the muricopsine type in most species examined.

To augment the description and photograph by Kosuge of *M. oliverai*, I have made camera lucida drawings of a specimen kindly sent to me for examination by Abbey Specimen Shells of Santa Barbara, California. The species has neither short nor long spiny projections on its varices. Instead these are replaced by about ten flanges which are moderately raised from the shell surface, their leading side is laminate and the surface of the shell and flanges has a series of about ten major cords and numerous minor ones whose presence results in the wavy undulating character of the flanges. The overall morphology of the shell with its dentate aperture is characteristic of species of *Pygmaepterys* Vokes, 1980. Dr. Vokes reached the same conclusion regarding the placement of this species in *Pygmaepterys* (see the "Bulletin of the Institute of Malacology Tokyo" April 1985).

The radulae of *Pygmaepterys poormani* Radwin and D'Attilio, 1976 and *P. germainae* Vokes and D'Attilio, 1980 have been shown to be both muricopsine.

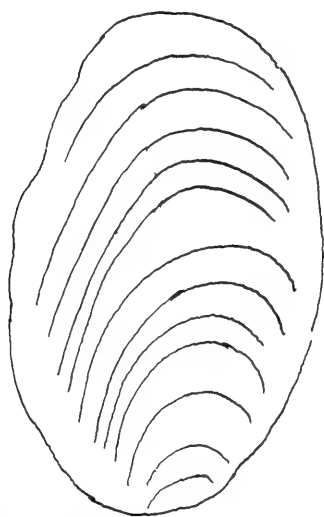


Fig. 4. Operculum of *P. oliverai*.

#### LITERATURE CITATION

Kosuge, Sadao, 1984. Studies of the Collection of Mr. Victor Dan (6) Descriptions of New Species of the Genera *Pterochelus*, *Takia*, *Muricopsis* and *Cantharus*. Bull. Inst. Malac. Tokyo 1(10):143-146(1984)

#### WHAT'S-IN-A-NAME DEPARTMENT

Among the most misused words in the taxonomic language are the terms, *species*, *genus* and *taxon*. The important thing to remember is that the words *genus* and *taxon* are singular; their plural forms are *genera* and *taxa*, respectively. The word, *species* is both singular and plural. The adjectives derived from the words are *specific*, *generic* and *taxonomic*. One cannot refer to "a genera", "a taxa" or "a specie"! The word *specie* means "coin", usually gold or silver.

## Helpful Hints for Collectors

by MINICYP

### Libraries

It has been said that the difference between a collector and an accumulator is a library. Knowledge is gained through reading, listening and observing. A collector is assumed to be knowledgeable of whatever he or she collects be it shells, stamps, buttons or whatever. Accumulation does not require knowledge. A library becomes a source of knowledge for the collector. A public library has its place but the personal library becomes the day-to-day tool of the collector.

A library, in this writer's view, is a very personal sort of thing. You can tell a great deal about a person by just looking at his or her library. Thus trying to define a shell collector's ideal library is next to impossible. Everyone will have a different idea about what their library should contain. So let's sort of ramble about this author's view of a shell collector's library and maybe these ramblings will give you some new ideas about your library.

First of all, a library should contain some current periodicals. Books are great but they are usually two or three years out of date the day they are published. To keep up with what is current in the shell world one needs a periodical or two. Unfortunately there is only one established periodical of general circulation that could be called newsy. That is the *Hawaiian Shell News* which comes out monthly. The *H.S.N.* contains a well-balanced mixture of shell news, collecting articles, articles giving information on various species, genera or families, reviews and news of new literature, etc. . .

There are several other periodicals published for the shell collector. *La Conchiglia*, an Italian publication with an English edition, comes out every other month. *La Conchiglia* is aimed at the advanced amateur. It contains very little news. Usually there will be a half dozen articles dealing with various families, genera or species of shells. Frequently there will be original descriptions of new species. Occasionally there will be collecting stories. It is pretty much a scientific type of publication.

The character of the *COA Bulletin* should be self-evident.

*Shells and Sea Life* is the new kid on the block. It is an outgrowth of the *Opisthobranch Newsletter* and *Of Sea and Shore* although it appears to have few of the features of the latter. As yet *Shells and Sea Life* has really not established an identity of its own.

*The Veliger*, *The Nautilus*, *Malacologia* and *Malacological Review* are all periodic journals aimed at the professional malacologist and not at the collector. There are some articles in these journals that are of interest to some collectors but these are uncommon.

Another class of periodicals are the club news letters (*H.S.N.* and *COA Bulletin* of course, are, club newsletters aimed at a wider audience than most newsletters). Club newsletters can generally be obtained only by joining the club which publishes the newsletter. Most clubs, however, will exchange their newsletter for your club's newsletter. This sort of exchange combined with a handy copying machine provides another way of adding to your library.

The quality of club newsletters varies. Some approach the quality of *H.S.N.* or the *COA Bulletin* while others will be of interest only to members of the local club. I will make no attempt to stick my neck out by trying to evaluate club newsletters.

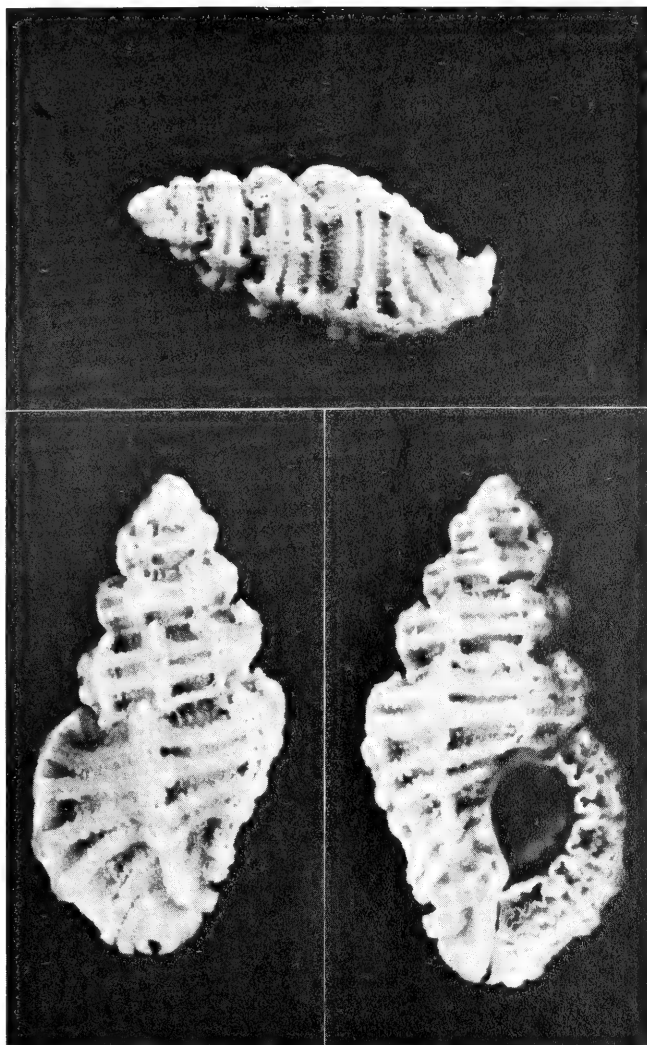
A second type of material for your library are the so-called occasional papers published or sponsored by universities and museums. As the name indicates occasional papers are published occasionally. There is no fixed schedule of publication. They are published when the author finishes a piece of work. These papers usually cover a single subject in an exhaustive manner. Typically they are monographs, catalogs and such like. *Johnsonia*, published by Harvard Museum of Comparative Zoology, was—or perhaps is—an excellent example of an occasional paper. Each issue was a monograph on a single genus of Western Atlantic mollusk. Sadly, none have been published in recent years. *Monographs of Marine Mollusca* and *Indo-Pacific Mollusca* are similar types of publication with issues from time to time.

Since these occasional papers usually deal exhaustively with a single subject, be it a family, genus, mollusks of a given area, etc., they are very worthwhile additions to a collector's library. The problem is finding out about the papers you would be interested in getting and then getting a copy. The only way seems to be to keep your eyes and ears open. Sometimes the general periodicals will review or at least mention this type of paper when it appears.

A strange publication that does not fit any sort of classification is the *The Connoisseur of Seashells*. It is basically a subscription price list, published in color on glossy paper, which contains a good deal of useful information in the form of short articles. It is again an Italian publication.

Dealers' price lists should not be neglected. They are a source of range,

(continued on page 7)



Figs. 1-3. Lateral, dorsal and ventral views of Don Pisor's magnificent, adult, 16.5mm long specimen of the Philippine *Favartia* from the Straits of Bohol. Photos Foster & Glass.

## MACTAN MURICIDS —A FOLLOW-UP

by EMILY H. VOKES

Dept. of Geology, Tulane Univ., New Orleans, La. 70118

One of the nice things about making statements in print is that you immediately get a lot of feed-back—both positive and negative. When you figure a strange specimen for the first time, then people recognize that funny-looking shell in their collection and send it to you. Thus, there have been several interesting results from my recent article on the Mactan muricids.

One involves that seemingly misplaced *Favartia* (*Caribiella*) *alveata* from the Philippines. The original lot consisted of two specimens from Jim Springsteen. He sent one to me and the other to Richard Kilburn, of the Natal Museum. Last Christmas I visited with Kilburn and borrowed the mate to my mystery shell. Unfortunately both had been badly acidized and fine detail was lacking. But as a result of the article I received a magnificent adult specimen from Don Pisor, and it was obvious immediately that what we had was the adult form of the shell that is going around as "*Favartia peasei*" (not the real *peasei*, which is a *Pygmaeptyrs* from West Mexico—see Vokes, 1984, *Shells and Sea Life*, vol. 16, no. 10, pp. 160-161). All of the specimens seen have been immature—that is they have not formed the attenuated body whorl of the adult, characteristic of the subgenus *Caribiella*. All of the specimens of

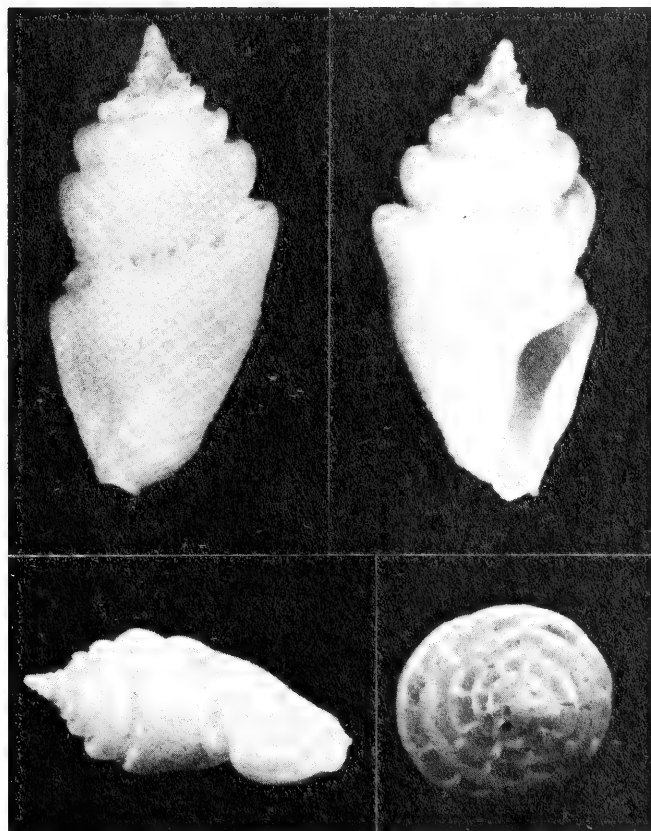
the Indo-Pacific species have a similar color pattern, consisting of dark brown blotches *under* the varices (best seen within the aperture) and most importantly a reddish-orange spot on each varix at the shoulder (these can be seen in the color photograph given by Radwin and D'Attilio, 1976, pl. 29, fig. 7).

So, there is no question but that this is a genuine Indo-Pacific species—localities include: Fiji and the British Solomon Islands (Radwin and D'Attilio, 1976, p. 152); Conducia Bay, Mozambique (K. Groesch Coll. in Vokes Coll.); Guadalcanal, Solomon Islands (Al Deynzer), and the Philippine Islands. *But* the bigger question is—is it really distinct from *F. alveata*? On the basis of this new material I can see that there are differences but they are so very tenuous, if the two forms occurred together no one would dare to separate them. Good specimens (of which there are few) of *F. alveata* show essentially the same color pattern. The main distinction seems to be that *F. alveata* is slightly more attenuated (i.e., the spire is somewhat higher) and the ornamentation has a coarser appearance. This latter may be a reflection of what is evidently a deeper habitat for the Indo-Pacific form (I am assuming this, with absolutely *no* data—but *F. alveata* is extremely shallow and the appearance of the Indo-Pacific form in the Punta Engano material suggests deeper water).

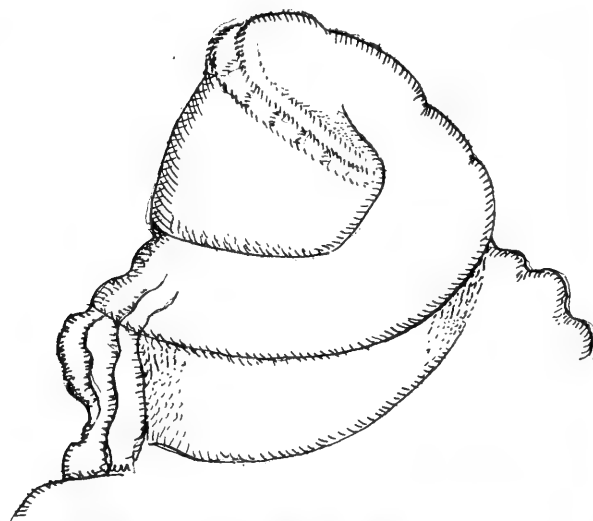
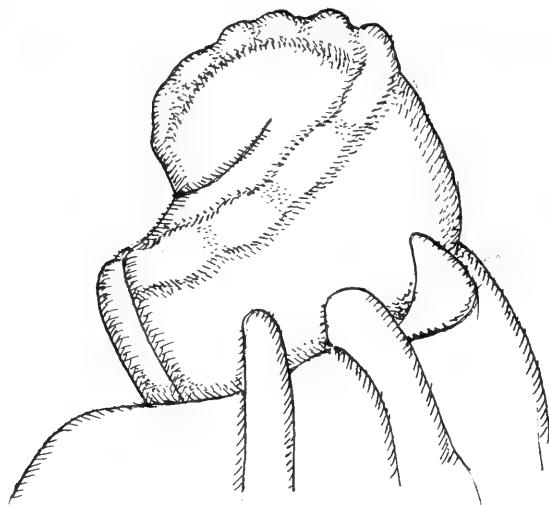
Only more material will finally resolve the problem of is this a new species—anyone having material is requested to advise me and let us see if we cannot come to some conclusion.

## SHELL CURIOSITIES

*Conopleura striata* Hinds, a most unusual turritid, as shown in these four views of a 15 mm specimen (AbS 85-830) from deep water in the Straits of Bohol, Philippines.







Figs. 1a, b. Drawings of dorsal and ventral views of the canted, tabulate protoconch of (*?Favartia*) *paulboschi* Smythe & Houart 1984, showing the swollen shoulder ridge. Camera lucida enlargement X50.

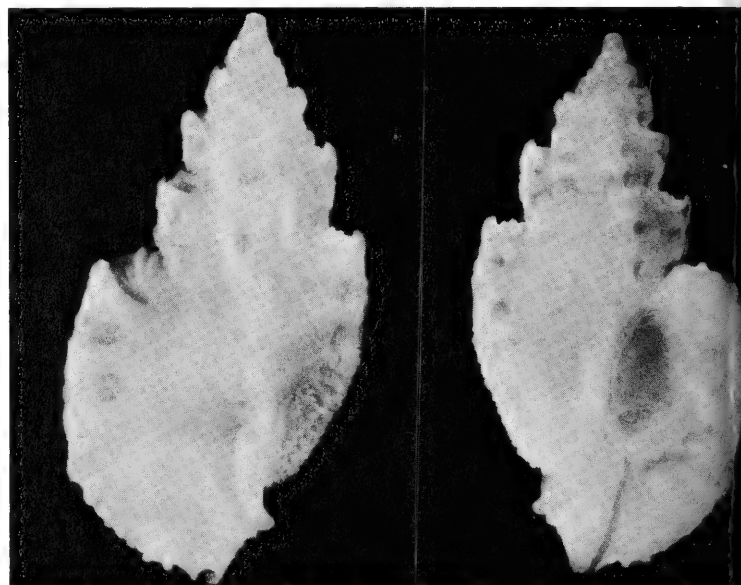
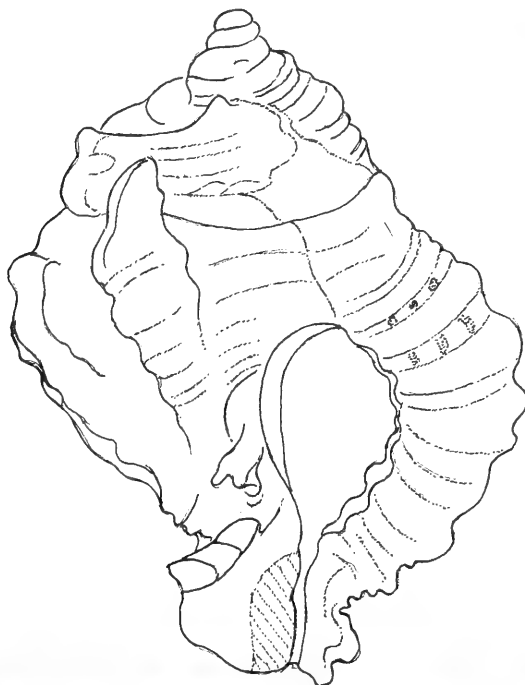
## OBSERVATIONS ON (*? FAVARTIA*) *PAULBOSCHI* SMYTHE & HOUART, 1984

by ANTHONY D'ATTILIO

San Diego Natural History Museum Malacology Section

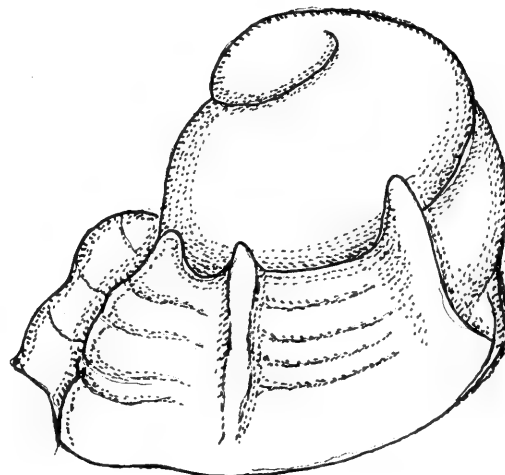
This species from the Gulf of Oman does not appear to be related closely to *Favartia*, type *brevicula* Sowerby. The original citation is *Favartia* (*Favartia*) *paulboschi* (fig. 2 a, b). Study of the morphology of this most interesting species, demonstrates characters that do not make an assignment to *Favartia* likely. To be noted first is the tabulate protoconch (fig. 1 a, b). The protoconch *Favartia brevicula*, has a simple low convex nucleus (fig. 4). The specimen studied of *brevicula* (fig. 3) was obtained in the tangle net operations at Bohol Straits. We have never been able to study a protoconch of the shallow water *F. brevicula* as it has always been eroded.

Fig. 3. Drawing of shell of *Favartia brevicula*, the same specimen of which the protoconch was illustrated in fig. 3 (SDNHM 82093), 14.5mm long; 5 whorls, including protoconch; aperture color violet, broadly lirate within, reflecting the external sculpture. Camera lucida enlargement X6.35.



Figs. 2a, b. Dorsal and ventral views of a 17.5mm specimen of (*?Favartia*) *paulboschi* Smythe & Houart 1984, showing the swollen shoulder ridge. Camera lucida enlargement X50.

Fig. 4. Drawing of protoconch of *Favartia brevicula*, drawn from a deep water ?ecotype specimen obtained from gill net operations by Philippine fishermen. The protoconch is simple, smooth, convex. Camera lucida enlargement X50.



Although the type of *Muricopsis*, that is *M. blainvillei* (Payraudeau, 1826), has a low conical protoconch, most species at present assigned to *Muricopsis* have a tabulate protoconch (Radwin and D'Attilio, 1976).

A most notable and unusual character in *paulboschi* is the broad axial band present midway in the varical interspaces (fig. 5). These intervarical bands are finely ornamented by axial striae and the band is colored a pale olivaceous. In addition, the bands, which are elevated, interrupt the spiral sculpture which is very apparent in the deep spiral indentations or troughs found on both sides of the axial band.

I hesitate here to assign this species to another generic taxon as the entire *Favartia* species group has been expanded far beyond the parameters that would seem to have been set by *F. brevicula*, the type. In addition to my comments, Vokes 1985 has noted, "There is no closely related form with which it (*paulboschi*) may be compared."

#### ACKNOWLEDGEMENTS

The specimen used for this study was kindly placed on loan at my disposal by Bob Foster and Charles Glass of Abbey Specimen Shells. This specimen and others have been obtained directly from Don Bosch (personal communication). I am grateful to them for the opportunity to study this species. It is not in the S.D.N.H.M. collections.

#### LITERATURE CITATION

- Radwin G.E. and D'Attilio A., 1976. *Murex Shells of the World, The Family Muricidae*.  
 Sowerby G.B. (second of name), 1834. Figure of *F. brevicula* and name only. *Conchylogical Illustrations*.  
 Vokes, E.H., 1985. A review of the new species named by Roland Houart, *Shells and Sea Life Vol. 17, (5)*, pp 157-160, 14 figs.

#### LIBRARIES: (cont. from page 4)

size and price data. Tom Rice's publication, *A Shellers Directory of Clubs, Books, Periodicals and Dealers* is a great reference on the included subjects. Tom's *Catalog of Dealers' Prices* has grown to be sort of a sheller's bible on prices and a great check list.

Finally the books. First off should be some sort of a book dealing with the biology of mollusks. Most shell books, so-called, deal with identification and not the biology of the beast. It is frequently helpful to know or be able to look up information on the biology to supplement the write-up of a collection.

References on how to collect and how to clean shells are useful both to the collectors that collect their own and the collectors that collect by buying and trading. Sometimes shells arrive from a dealer or exchange partner in need of more attention than just cataloguing!

... Several atlases! One modern (National Geographic's can't be beat) and one or two older ones (say 10 and 20 years old) are nice to have. With the constant change in place names and country names an old atlas is most handy to tie the old and new place and country names together. Garage sales are great places to find old atlases.

A good glossary dealing with mollusks and conchology is a must. The glossaries contained in the popular shell identification book range from non-existent to fair. There is nothing more frustrating than to be trying to establish the identification of a shell and to run across a term that is not defined in the glossary. This happens all too frequently. One can develop one's own glossary by photocopying glossaries from various sources. This is the course I have taken. There are also several books available.

Now comes the identification references. These books are the heart of any collector's library. What qualities should a good identification reference have? Well, first some sort of a key that will take you from the shell in your hand down to a relatively few species from which you can make a final determination of the species which you have. The species description should include sufficient illustrations so that one can visually confirm the written description. Both the illustrations and the written description should deal with all the normal forms of the species. The description should contain color, size, habitat and range data. Perhaps most important, the description should contain clear and hopefully concise identity points which separate the subject species from other similar species. The book should have a complete glossary covering all the technical terms

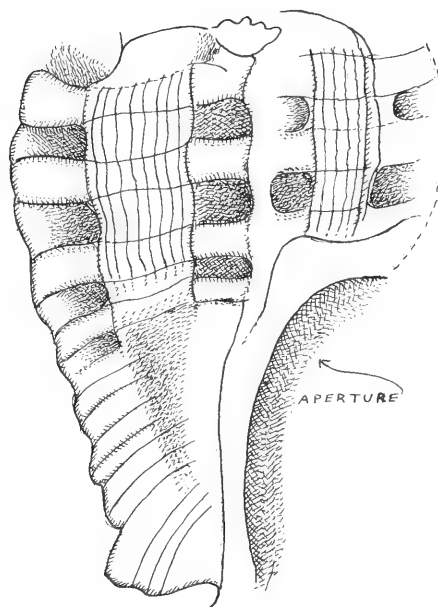


Fig. 5. Drawing of the sculpture, a detail only, of (?*Favartia*) *paulboschi*. Camera lucida enlargement X8.

used in the book. Finally a first class index is a must.

Very few, if any, books meet the above criterion. Perhaps the closest is the combination of *Marine Molluscan Genera of Western North America: An Illustrated Key* (A.M. Keen and Eugene Coan) and A.M. Keen's *Seashells of Tropical West America*. Incidentally, the first book is a worthwhile addition to any library.

Unfortunately most of the shell identification books in print tend to be of the look-ee-findee type book of pictures with some written description but little or no key and no help on species differentiation. You match your shell to a picture and then see if the written description fits.

Identification books (as well as most other books) are expensive (up to \$100) it is well to examine books before you buy to see if the book you are thinking of buying really meets your needs. Also, it doesn't hurt to talk to your fellow collectors to get their opinion. The listing of the ideal contents given above can serve you as a guide of what to look for in a book.

In doing identification it is often helpful to have a combination of both area (for example Western North America, Hawaii, Central Indo-Pacific, etc.) and specific family or genus books. The area books can be helpful in establishing family or genus before proceeding to the more detailed reference.

Ah yes, then there are the coffee table books for your library! Your non-shell-collecting-friend will be impressed by and probably interested in looking through such books as *The Shell* by H. and M. Stix, and R. Tucker Abbott. Books like this serve to give the non-collector an idea of the scope and beauty of shell collecting.

Classics also have a place in your library. I collect *Cypraea* and the works of the Schilders, Steadman and Cotton, Melvill, Iredale and others have a valued place in my library. They, as well as the modern workers, contributed to my knowledge and understanding of the Cyps. Similarly other early authors have contributed to the knowledge of other genera and their works belong in the library of the collector interested in these genera. Originals of many classics are hard to come by and thus the collector must often be satisfied with photocopies or reproductions. Settling for less than the original does not alter the reference value of the book.

Speaking of these early authors, another nice library item is autobiographies or biographies of these men (were any of the early authors women?). These biographies provide an understanding of men with similar interests to yours.

(continued on page 11)

## SUNI CABRERA AND HER SHELLS

### A MOST UNUSUAL COLLECTION WITH A MOST UNIQUE CRITERION

by G. GLASS & R. FOSTER

There are all kinds of collectors and all kinds of collections. Some collectors collect only one family or genus. We knew of one collector who only collected forms of one species. Some collect only the largest possible specimens, some only the smallest. Some collect only shells which they themselves have "self-collected". Certainly, however, the most unusual collection with the most unique criterion is that of Suni Cabrera in Puerto Rico. She collects only shells that are 75mm long! That may mean that she has to work that much harder or wait that much longer to get an unusually large specimen of a typically small species or an unusually small specimen of a typically large species, but her patience and endeavors have obviously been fruitful for her collection includes over 3,000 specimens of which, understandably, 21 are world records!

So why in the world and when did she start such an unusual collection? Suni says that even as a youngster in Puerto Rico she collected size. When she was 12 she started housing her shells in sectioned plastic boxes in which the compartments were large enough to accommodate 2" long shells. An unfortunate accident interrupted her shell collecting career. In the early 50s, while attending Pratt Institute School of Art in New York, she took her collection to the institute's textile design class. She was jostled; the trays fell and the shells were "nicked to death". This was such a traumatic experience that she could not bear continuing in the hobby. Indeed, it was 20 years before she took up her early passion for shell collecting again. That was 11 years ago and in Atlanta, Georgia, and there she joined the Georgia Shell Club of which she has been a member now for 10 years. Indeed, in the December issue of the club's publication, *The Whelk Wavelength*, an article was published by Suni on "The Salient Highlights of My Shell Collecting Life".

Apparently when Suni resumed collecting she had a source of boxes that would conveniently accommodate 3" shells for that became the size she collected the second time around. We must admit that when we first heard about the collection it seemed eccentric in the extreme, but when Suni sent us some pictures of her collection we had to admit that the collection of shell specimens ALL the same size created a very pleasing, artistic effect.

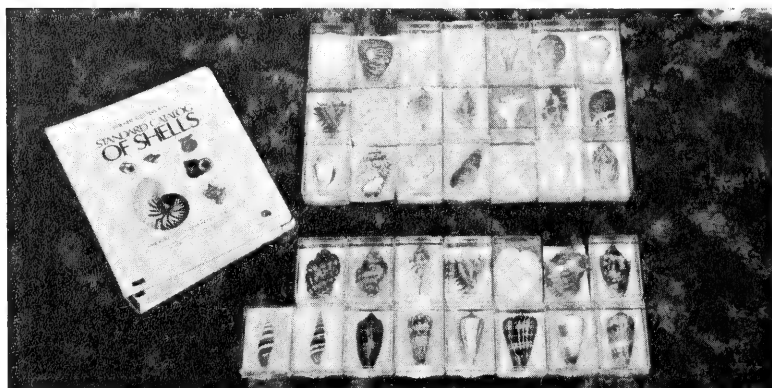


Fig. 1. World size record shells in the Cabrera collection.



Fig. 2. Some of the 3 inch (75mm) shells in what Suni Cabrera refers to as the "smithSUNian Collection."

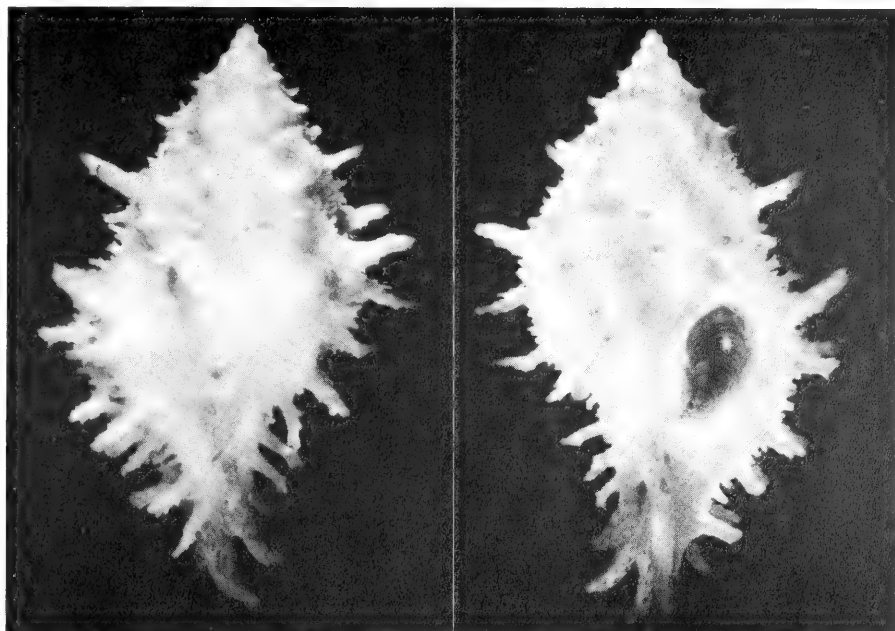
Suni also collects albino and melanistic forms, red, golden and sinistral forms, shells with periostracum, shells "that bear horrible wounds", etc. . . . but all 75mm long (well, actually, she will stretch it to 79mm, but that's the absolute limit!). Her prizes include *Cypraea guttata*, *C. leucodon*, *C. valentia*, *C. aurantium*, *Conus gloriamaris*, *C. milneedwardsii*, *C. bengalensis*, *C. dusaveli*, *Murex phyllopterus*, *M. miyokoeae*, *M. loebbeckei*, *M. bednalli*, *Voluta kotorai*, *V. thatcheri*, *V. exoptanda*, and 5 special favorites, 5 volutes from the Abbottsmith Collection.

Aside from her private collection, Suni, now back in Puerto Rico, also runs a shell shop, Ocean House at 151 C. Tetuan in San Juan, "a pretty store, an interesting store, for lovers of things of the sea". She says that running a shell business in Latin America is a strange business as there is a superstition coming from the Spaniards that it is bad luck to keep shells in a house. The expression is that they "salt you" and the belief is that they render the land barren! Hopefully Suni will convince those who come in contact with her and her shop that such is not the case!

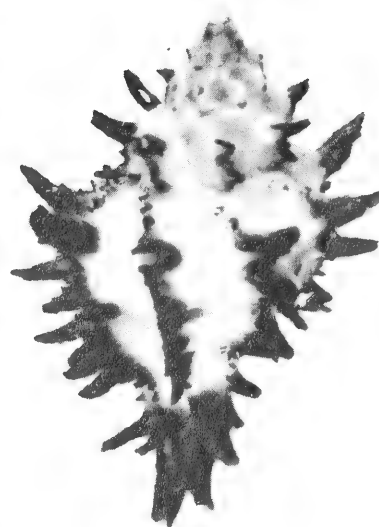
## WHAT'S-IN-A-NAME DEPARTMENT

In the article, "Mollusca collected by m. v. 'Challenge' off the east coast of Australia" by T.A. Garrard in the Journal of the Malacological Society of Australia, No. 5, Nov. 1961, Garrard, interestingly, gives the Aboriginal meanings of the unusual epithets he chose. Many collectors have the shells but probably few have the original publication, so here are the translations:

- bularra* (*Astele bularra*) from an Aboriginal word meaning "several waters"
- myuna* (*Colubaria myuna*) from an Aboriginal word meaning "clear water"
- kurranulla* (*Poirieria kurranulla*) from an Aboriginal word meaning "a small pink shell"
- wallangra* (*Floraconus wallangra*) from an Aboriginal word meaning "big water"
- illawarra* (*Leptoconus illawarra*) from an Aboriginal word meaning "a pleasant place"
- minnamurra* (*Mamiconus minnamurra*) from an Aboriginal word meaning "plenty of fish"
- binda* (*Turris binda*) from an Aboriginal word meaning "deep water"
- murrawolga* (*Turricula murrawolga*) from an Aboriginal word meaning "sheet of deep water"



Figs. 1-3. *Muricopsis cuspidatus* (Sowerby, 1879): (left and center) dorsal and ventral views of an unusual, white, 28mm specimen (AbS 84-341) from Grubb Reef, Queensland, Australia, on reddish purple algae in 30ft, coll.



Oct., 1982. The more typical, black and white, 32mm specimen (AbS 85-1012) shown at the far right was taken in 2-3m feeding on small oysters growing on large boulders at Pointe de Nouville, Noumea, New Caledonia.

## COMMENTS ON MUREX CUSPIDATUS SOWERBY

by EMILY H. VOKES

Department of Geology, Tulane University  
New Orleans, LA. 70118

The species named *Murex cuspidatus* by Sowerby (1879, p. 36, fig. 203) is one of those that is the bane of a taxonomist's existence as it has features of three different genera. Superficially, with its white body and dark brown varices it most nearly resembles a minute West Coast *Hexaplex* (*Muricanthus*), such as *H. ambiguus* (Reeve). Thus, in 1971, I referred it to the genus *Hexaplex*, as did Fair (1976, p. 35, pl. 12, fig. 141), who figured the holotype from the Museum d'Histoire Naturelle, Paris (which purchased the type from Sowerby in 1879!).

Other authors over the years have referred the species to *Murexsul*, *Muricidea*, and *Ocenebra*, just to add to the general confusion. So, what genus should it be referred to?

Ponder (1972, p. 242, pl. 22, figs. 6-8) assigned it to the genus *Muricopsis* on the basis of the three-dimensional rachidian tooth in the radula (Ponder, text-fig. 3:26) and close examination of a number of specimens in the collections of The Abbey convinces me of the validity of this assessment.

The external ornamentation is most nearly akin to that of *Muricopsis armatus* (A. Adams, 1854), which occurs on the coast of Tropical West America. The very finely scabrous surface, with four elongate spines on the body portion of the varices, is identical to that species. However, the aperture is slightly different, as the columellar lip in *M. armatus* is never so flared as in *M. cuspidatus* and the small denticles on the anterior portion of that lip are more well developed in *M. cuspidatus* than in *M. armatus*, where they are often totally lacking, being developed in about 50% of the specimens.

The flaring, denticulated columellar lip causes *M. cuspidatus* to have a strong resemblance to the genus *Attiliosa*, but this is only convergence, as the radula of *Attiliosa* has the flat rachidian tooth of the Muricinae. But even without this clue, the spine pattern is markedly different in the two forms: *M. cuspidatus* has four equisized spines on the body, plus one or two long spines on the siphonal canal; *A. noduliferus* and *A. orri*, the spinose members of *Attiliosa*, have instead only two long spines on the body (plus a smaller third spine) and no spines on the canal.

As noted above, the color initially suggests alliance to the West Coast *Muricanthus* group, but this is again only convergence, as the latter group has no denticles on either the inner or outer apertural lips, but does have a strong anal ridge at the posterior end of the aperture. Also, in *Muricanthus* the posterior half of the columellar lip is usually appressed rather than flaring and the margin of the outer lip is serrated by the spines, with a strong forward-projecting tooth on the anterior portion.

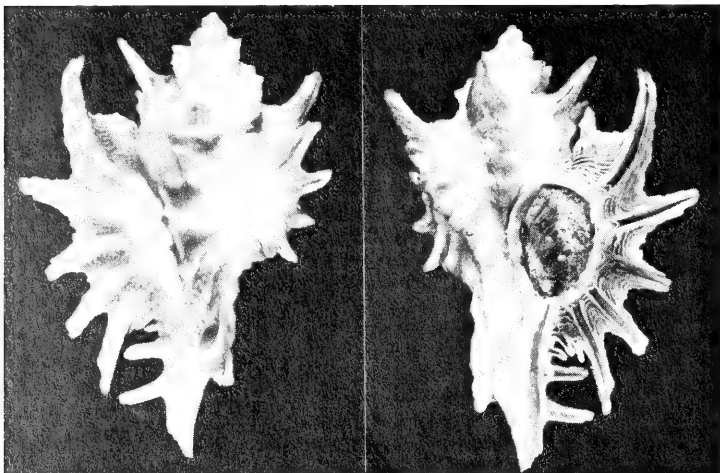
The type locality of *M. cuspidatus* is Japan, according to Sowerby, but the writer is not aware of any specimens from that area and it has never been treated by any of the Japanese authors. The typical black and white examples all seem to come from New Caledonia (e.g., Radwin and D'Attilio, pl. 27, fig. 9; Ponder, 1972, pl. 27, fig. 7) and, as Ponder noted, this is probably the true type locality. A color variant that is almost white with just faint tinges of tan (e.g., Ponder, pl. 22, figs. 6,8) occurs in Queensland. Ponder cited several localities, all from reefs in depths of 9-36 meters.

In their description of the form, Radwin and D'Attilio (1976, p. 167) stated that the protoconch was not known. From the specimens at hand it is seen to have a protoconch of one and three-quarters bulbous turns, with the tip rather exerted.

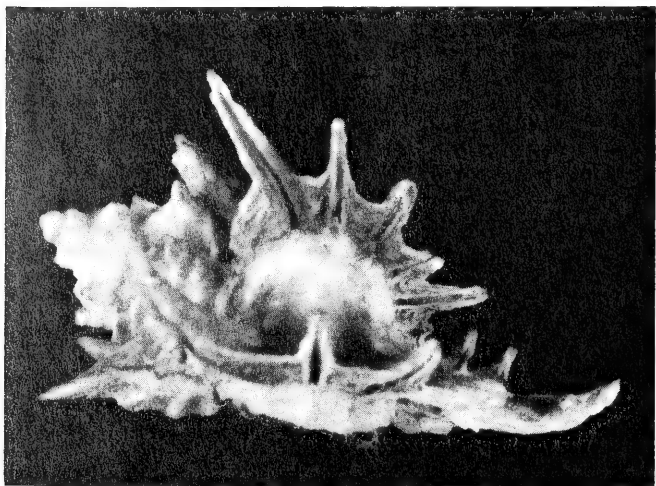
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Sowerby, G.B., Jr., 1879. Thesaurus Conchyliorum, v. 4, *Murex* p. 1-55, 24 pls.  
Vokes, E.H., 1971. Catalogue of the genus *Murex* Linne (Mollusca: Gastropoda); Muricinae, Ocenebrinae: Bulls. Amer. Paleontology, v. 61, no. 268, p. 1-141.



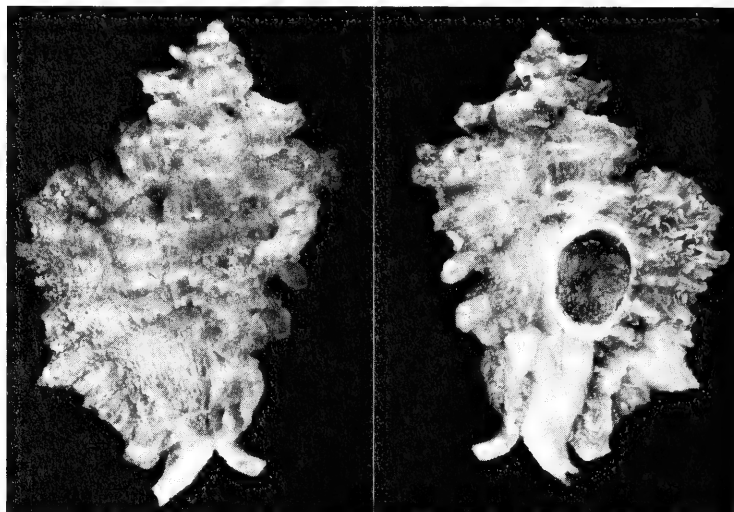


Figs. 1-3. The extremely rare *Murexiella diomedaea* (Dall, 1908), dorsal, ventral and lateral views of a 34mm specimen (AbS 85-1057) dredged in 1965 in the Pacific in 45-50fm off the coast of El Salvador.

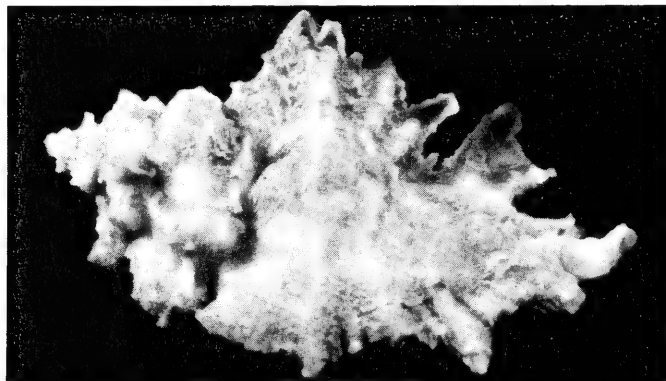


## SHELLS FOR THE AMATEUR

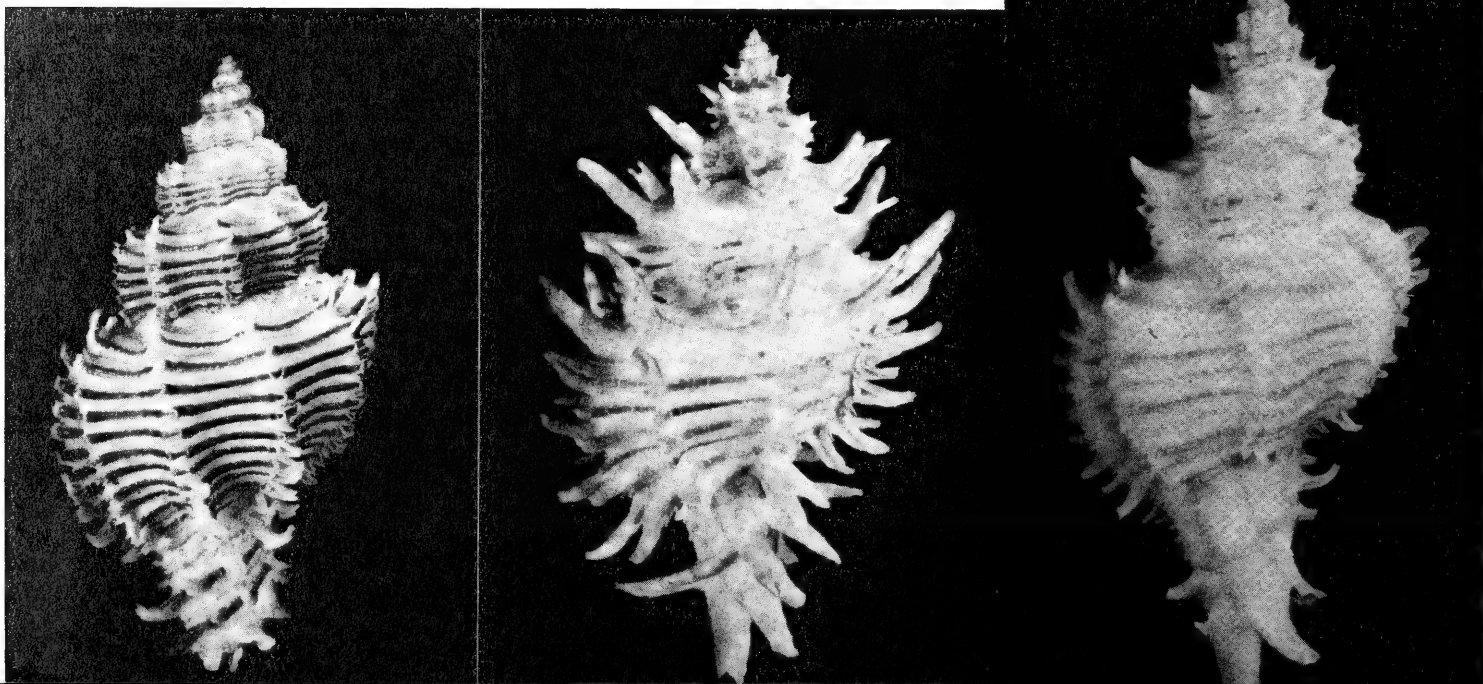
by C. GLASS & R. FOSTER

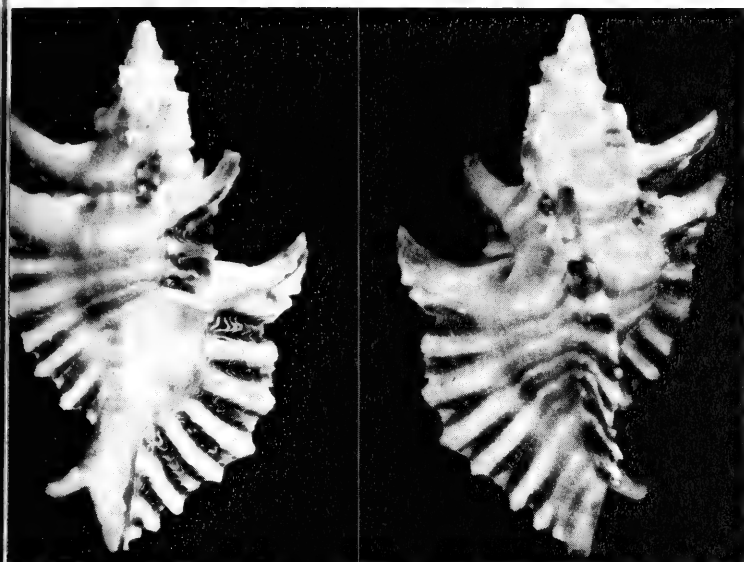


Figs. 4-6. *Jaton flavidus* (Jousseaume, 1874), dorsal, ventral and lateral views of a 36mm specimen (AbS 85-341) from 15-20m in the Baie de Goree, Senegal, western Africa, 1984. This species was unfortunately overlooked by Radwin & D'Attilio.

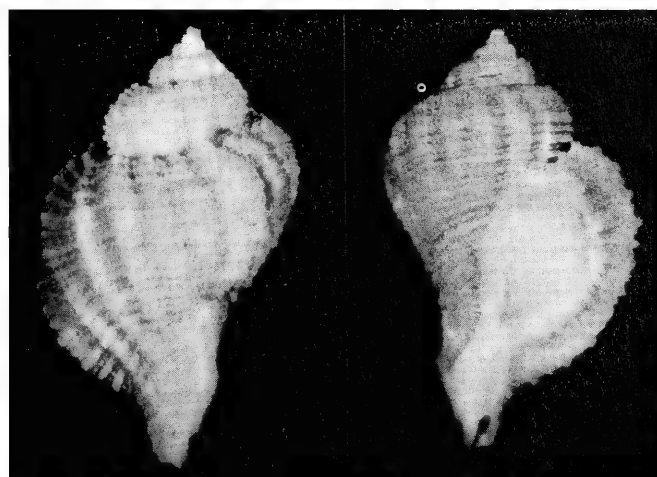
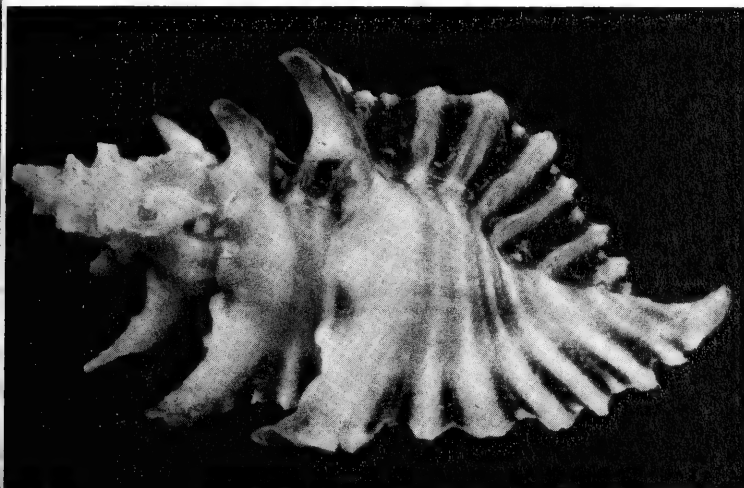


Figs. 7-9. *Muricopsis octogonus* (Quoy & Gaimard, 1833), 3 exceptional specimens of this obviously variable species all trawled off North Island, New Zealand. The specimen on the left (84-1389) is 54.3mm long, from 40-50fm in Doubtless Bay in 1984; the middle, 57mm shell (AbS 85-802) from 77-82m off Waitotara River mouth in 1976; the last, 64mm specimen (AbS 86-029) from 40-50m in Hauraki Gulf.





Figs. 10-12. Ventral, dorsal and lateral views of a superb, 29.5mm specimen of *Pterotyphis paupereques* (A.W.B. Powell, 1974), collected with SCUBA on sponge in 15m off Poor Knights Island, New Zealand in 1985 (AbS 85-1046). This most unusual species was first described as *Pterochelus*. The epithet, "paupereques" is Latin for Poor Knight, referring to the locality.



Figs. 13-14. *Genkaimurex varicosa* Kuroda, 1953 was described as a coralliophilid, but the discovery of a radula puts it into the Muricidae. This 30.5mm specimen (AbS 84-834) was trawled off Yanagawa City, Fukuoka Pref., Japan.

#### LIBRARIES: (cont. from page 7)

Books dealing with the use of shells and mollusks again serve to enlarge one's knowledge of shells. A cookbook or two dealing with shellfish serves to emphasize the fact that mollusks have some use other than to provide shells for us collectors. Shells in art or as money or as a source of pearls or buttons or as the focal point of a mystery have been the subject of numerous books and stories. Books of this class are worthy additions to a shell collector's library.

Thus a collector's library should consist not only of the technical terms needed to deal with the nitty-gritty of shell collecting but also the correlary material which is the frosting on the collecting cake.

How does one go about building a library. The first source is your friendly shell dealer. Many dealers carry a line of books dealing with shell collecting. It is a good idea to keep your favorite shell dealer or dealers apprised of your literary wants. They sometimes pick up libraries along with the shell collections they buy. If your dealers know what you are looking for you just might get first crack at his acquisitions.

Occasional papers can frequently be obtained from the institution which published the paper originally. Frequently the institutions involved will furnish photocopies (at a modest cost) where the supply of original papers has been exhausted. With the classic material, photocopies can sometimes be obtained from libraries and museums.

In searching for material one should not give up and should always be prepared for the unexpected. For several years I kept trying to obtain a copy of one of Dr. Schilder's papers with no luck. Then, one fine day, two photocopies and one original arrived in the mail. The funny part of the whole episode was that the original was a gift and both of the photocopies had invoices with them. Books and literature are where you find them. A good friend walked into a used bookstore in Switzerland and walked out with a library of classics at a price that was a steal. The book dealer did not know what he had.

\* \* \* \* \*

One of the things I had hoped for in writing this column was a bit of reader reaction: your better ideas for shell collecting that we could pass along; things you would like to read about in this column; even a letter saying this column is for the birds would show that someone, anyone, reads it. Let's hear it from out there! Anyhow, next issue will be something different.

#### ERRATA

Please make the following corrections in the article, "A Classification and Catalogue of Living World Ranellidae (=Cymatiidae) & Bursidae" by A. Beu, V.13:4, 55-66. 1985: in the caption for fig. 2 the central shell was not identified. It is *Cymatium flaveolum* (Roeding, 1798), a 50.5mm specimen from Cebu, Philippines (AbS 90-2423). This data was erroneously given to the specimen of *Cymatium (Septa) hepaticum*, the data of which should read: (Roeding, 1798), a 45.5mm specimen from Oueva Is., New Caledonia (AbS 80-1178)

On page 58 of the same article the item, "*Cymatium (Monoplex) corrugatum corrugatum* (Lamarck, 1816), Mediterranean & W. Africa" was inadvertently admitted. Also, on page 59, the range of *Cymatium aegrotum* is given as "West Pacific," but should have been listed as "Indian Ocean."

In the article, "*Strombus taurus* Reeve, 1857, In Search of the Marshallese Bull Conch" by Lisa Boucher, V.13:3, 40-42. 1985, the author questioned our listing of the size of the shell pictured in figs. 1 & 2 as 99.3cm. With apologies to her, Wagner & Abbott and those with an eye on World Size Records we have to admit that the stromb was **not** over a yard in length but only 99.3mm

Member Betty Dalrymple of St. Petersburg, Florida called to our attention that in the article, "Florida Fossils, Part 2," V.13:1, 14. 1985, our identification of *Viviparus georgianus* Lea is incorrect and she suggested that we check Olsson & Harbison, Plate 65, fig. 4. We did and she's right and the shell pictured has nothing to do with *V. georgianus*. Any suggestions anyone as to its true identity?

#### The 1986 C.O.A. CONVENTION

Convention information is being sent out in a separate mailing and you all should by now have received the initial mailing. If not, and if you're interested in attending the C.O.A. Convention in July 15-19, in Fort Lauderdale, write to the Convention Chairman, Ruth Chesler, 7401 S.W. 7th St., Plantation, FL 33317 and ask for registration and information forms.

## C.O.A. GRAND TROPHY WINNERS

Central Florida Shell Show, Orlando, Florida, January 17-19 1986  
John R. Van Buren

*Argopecten gibbus* (Linnaeus, 1758)

John's 24 foot display featured the one species *Argopecten gibbus*, showing growth series and color forms. This display of the beautiful and variable "Calico Scallop" also included photos taken by him on the scallop boats, at the unloading docks and smelly dumps taken over a period of twelve years at Port Canaveral, Florida. Excellent close-up photos were used to show the living animal and the shell cleaned to show the edible adductor muscle.

John belonged to museum clubs and the Burroughs Audubon Society in Rochester, New York before moving to Florida fourteen years ago.

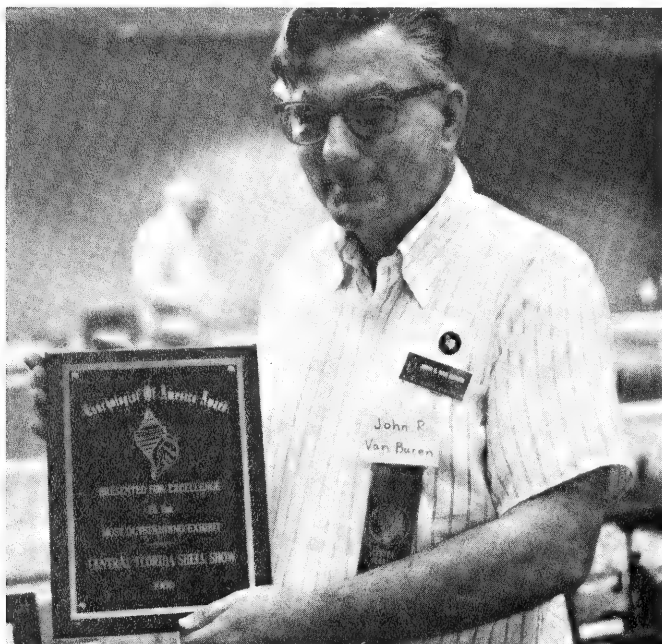


Fig. 1. C.O.A. Grand Trophy Winner, John R. Van Buren. Photograph by Dave Green.

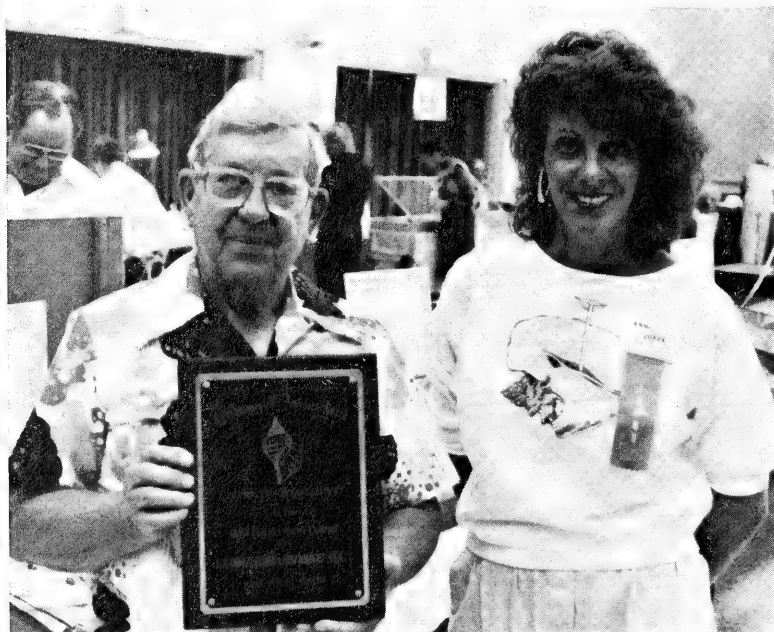


Fig. 2. Al Bergman proudly holds the C.O.A. Grand Trophy he won for his exhibit of Conidae at the 19th Annual Shell Show of the Southwest Florida Conchologist Society held at Fort Myers, Florida, January 17, 18 & 19, 1986. With him is Anne Joffe, President of the COA, who was a judge in the Artistic Division of the show. Photo Wm. H. Shaw.

Southwest Florida Conchologist Society Shell Show, Fort Myers, Florida

January 17, 18, 19 1986 at Fort Myers Exhibition Hall

winner: Mr. Albert C. Bergman, Bradenton, FL 33529

title of display: *Around the World in Cones*

19 cases containing 1456 specimens of 457 species, sub-species, varieties, and forms of Conidae. Almost every species in the exhibit had more than one specimen, some as many as 8 specimens, to show variations in form, color, pattern, etc. Many had the original periostracum and operculum, and there were many juveniles and anomalies. The shells and cases were arranged in groups according to the areas where they live. All species and specimens had detailed data labels.

Al Bergman, 76, was born and lived most of his life in Indianapolis, Indiana, where he owned a soap business for 30 years before retiring to Florida in 1972. He is a member of the C.O.A. and has been very active in the Sarasota Shell Club for a number of years, serving on the Board of Directors and being in charge of the club's shell sales at the annual shell show every February. He has been a shell collector for about 10 years, specializing in the Conidae, and has put together a nearly complete collection of all the valid species. In addition to his active membership in the Sarasota Shell Club, Al helped to organize the Indianapolis Shell Club.

Miami Shell Show, Miami, FL, JAN 23-26, 1986

winners: Wayne & Donna Harland

title of display: *Florida/Caribbean Self-Collected*

A 36 foot display of marine shells collected beach combing, snorkelling and scuba diving off Florida, Bahamas and eastern Yucatan Peninsula.

Wayne and Donna have been divers for 5 years and shelling for 2½ years. They enjoy diving on weekends offshore near their home in Light-house Point, Florida and in the Bahamas during summer vacations. Highlights of their collection are *Conus Granulatus*, a red *Conus Abbotti*, *Pecten mildredae* and *Typhis pinnatus*.



Fig. 3. Wayne & Donna Harland on a summer dive trip in the Bahamas.

Crown Point Shell Show held October 4, 5, & 6, 1985 at the Southlake Mall in Merrillville, Indiana

winners: John and Harriet Landin, Chicago Shell Club

title of display: *Genus Cypraea*

Showed 194 species—384 specimens including such rarities as 3 *Cypraea fultoni*, 3 *Cypraea broderipii*, *armeniaca*, *barclayi*, 2 *cruiickshanki*, 2 *kuroharai*, 2 *leucodon*, *midwayensis*, *teramachii*, 2 *valentia*, *bernardi*, 2 *rosselli*, *sakuraii*, 3 *langfordi*, etc. 12 of the specimens displayed were world record size when compared with Wagner and Abbott's World Size Record listings for *Cypraea*.

John Landin was in the Marine Construction Business for 42 years. He retired in 1982 and had previously decided to pursue shell collecting as a way to keep occupied after retirement. To date he feels that he has been busier since retirement than he was before. He does consulting work in the Marine Construction Field and conducts building projects at his Palos Park, Illinois home, including a Shell Museum, in addition to the shell collecting. Harriet Landin was a librarian at the Palos Park library until her retirement a few years ago. Traveling also occupies both of them to a great extent.



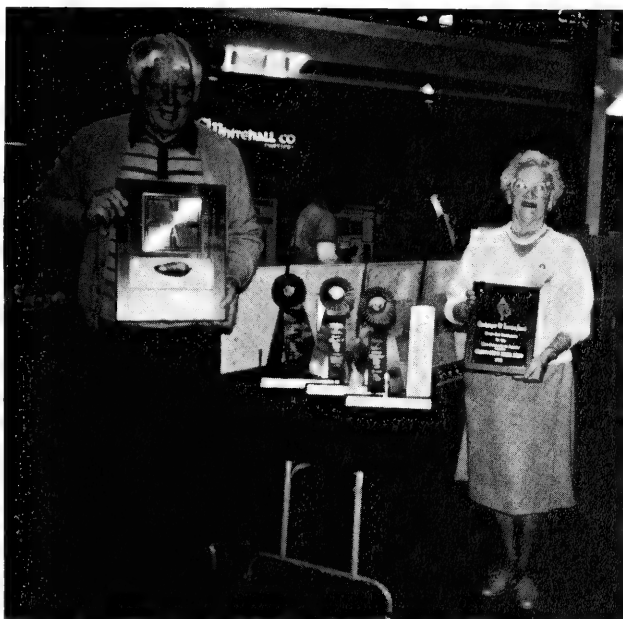


Fig. 4. John and Harriet Landin, winners of the COA Grand Award at the Crown Point Shell Show 1985, "The Spell of the Shell".

The **Jacksonville Shell Club** will hold its 22nd Shell Show on August 12 & 13, at the Jacksonville Beach Flag Pavilion. The show will be open on Friday from 1 p.m. to 6 p.m. and on Saturday and Sunday from 10 a.m. to 6 p.m. Please contact Show Chairman Norma Bullock, 10960 Beach Blvd. #413, Jacksonville, Florida (904:642-5840) for details.

#### The C.O.A. Local Club Representative Program is Underway

At this year's (1985) annual convention, the new executive board instituted the **Local Club Representative** program, in an effort to open up a two-way communication link between all of the clubs around the country and the COA. A mailing to all of the shell clubs announcing the program was sent in September.

The representative at each club (designated by the current club president), would act as a liaison, keeping their club informed on the activities and convention updates with the COA, and in turn sending news of your club's shows and activities for publication in the COA Bulletin. The executive board felt this two-way communication link will be beneficial in helping spawn new ideas and projects in conchology and malacology, while helping disseminate national conchological and malacological information to all of the local clubs around the country.

The club member designated as the **COA Local Club Representative** will also receive a discount on their convention registration fee for the following convention. The reps. will receive periodic mailings of news and information which they will present at their club meetings.

At this writing two immediate responses came. Raymond K. Pease of Charleston, South Carolina will be representing the **Low Country Shell Club** (Raymond was co-chairman of the 1980 COA convention in Key West). The club has recently changed their name to the **South Carolina Shell Club**, new president Melinda Bannar has informed us.

Helen C. Paul, president of the **Long Island Shell Club** has sent us a letter stating that Helen Madow of Flushing, New York will act as the club's COA Local Club Rep. The **L.I.S.C.** has had a similar representative designated by their club in the past since so many of their members were active in COA, and they certainly wanted to continue with this program.

If your club would like to participate, have your current club president send the name, address and telephone number of the person selected on the club letterhead. The **COA Local Club Representative** must be a current member in good standing of COA. We look forward to hearing from you, and maybe seeing you in Ft. Lauderdale in July 1986! For more information write Richard L. Goldberg, Vice President, P.O. Box 137, Fresh Meadows, N.Y., 11365; or call (718) 357-6467.

## OF MOLLUSKS AND MEN ALICE'S ADVENTURES IN ECOLOGY

by PAMELA R. SCOTT

16861 Davis Road SW #824, Ft. Myers, FL 33908

Imagine this: you are SCUBA diving in fifteen feet of water just off the coast of a privately owned Caribbean island. This is the first official dive of your life and it is taking place on your sixty-fifth birthday. You are still nursing a cracked rib but are totally unaware of any lingering pain; you are distracted by all the intriguing beauty surrounding you. You observe the bright flashes of tropical fish, the awesome shapes of the coral heads, the flat-bottomed air bubbles of the diver approaching you. Your eyes widen in surprise. The diver is Jean Michael Cousteau, son of Jacques Cousteau, and he's gesturing for you to follow him. He leads you back under the resort's dock and points out lobster, drumfish and large barracuda. In your excitement you nearly swim into the prop of your dive boat.

A dream? Not at all, but that's just how Alice Anders describes her recent experience as part of the Jacques Cousteau Society's Project Ocean Search.

Alice, a self-taught Conchologist, known on Sanibel Island, Florida for her interest in and knowledge of shells, was accepted last June by the Cousteau Society as one of thirty individuals to accompany scientists on a research mission on Mosquito Island in the British Virgin Islands.

The Society's goal is to "protect and improve the quality of life for present and future generations". It is their concern that we learn to co-exist with and protect our environment, an environment which, in turn, can ultimately provide us with the means for our survival.

To that end, this expedition provided their research team with programs and projects to totally immerse them in the study of sealife. Alice found the two week retreat to be exhilarating, not unlike that of a religious experience. She also gained much practical knowledge of everything from sea mammals, corals and marine algae to underwater photography, ship wrecks and the Japanese art of fish printing called Gyota Ku, all taught to her and the others by experts in each field. Alice herself was accepted as the expert on mollusks and was assigned the job of listing and identifying the shells found in the study area.

A member of the Cousteau Society since it's founding, Alice never allowed herself to even imagine joining the group's missions. She was, after all, just a secretary and mother of five who had moved to Sanibel from Baton Rouge, Louisiana shortly after her husband's death. Once she discovered the island's marine life, however, her life changed completely. She spent hours on the beach and in the water, collecting sea life to observe in the many aquariums she set up in her home. She pored over books on marine life in the evenings and even borrowed a friend's microscope in order better to see the minute creatures in a drop of sea water. She became involved with the local shell clubs, later joining several other U.S. clubs. She began to share her knowledge with the fifth graders at Sanibel Elementary School on a weekly basis. She was appointed a member of the Sanibel City Council's Live Shelling and Wildlife Committees. Then she happened upon an application to join the Cousteau Society's marine expedition. "Well, what the heck", she thought, "Why not?"

It took weeks of correspondence and telephone calls to complete the application requirements but her efforts were rewarded by a letter of acceptance from the Society. No one could have been more thrilled than Alice to have been accepted.

There were still more problems to overcome, including financing the \$2,050 cost. She was rescued by the many people she herself has helped throughout her life—the Sanibel-Captiva Shell Club contributed \$500, the Cousteau Society granted her another \$500; her children helped out, as did several of her friends. Others donated equipment, offered transportation to the airport. She was on her way!



Returned now, Alice has already formulated plans for the next twelve months. Her ultimate goal is to continue to teach children not only to explore and enjoy the marine life around them but to also protect that life. Beyond that, this feisty retiree has decided to go back to work in order to save up enough funds to join next year's Cousteau research mission.

She'll do it, too. Could you have any doubts?

## SHELLS IN PRINT

by RICHARD L. GOLDBERG

Serious shell collectors strive to build up good conchological libraries in their quest to help identify odd species that come into their collections. Often the less popular families are difficult if not impossible to place definitive identifications on certain specimens. The *Latiaxis* and *Coralliophilids* are one of these groups that have baffled and confused collectors for years. The recent release of S. Kosuge and M. Suzuki's *Illustrated Catalogue of Latiaxis and Its Related Groups Family Coralliophilidae* (Institute of Malacology of Tokyo—Special Publications No. 1, 1985) will certainly help all collectors in the identification of this most confusing group.

This 83 page soft-covered catalog had 50 high quality plates, half of which are in color. The quality of these plates is superb, and brings out the finer details in sculpture that will make identifications much easier. Numerous specimens of the same species are illustrated in many cases to show the extreme variation which makes this group so confusing. The authors state in their introduction that this publication is an attempt to illustrate all of the names given to living *Coralliophilidae*, and is a precursory work to a complete systematic monograph they will publish in the future. As such, collectors might find some of the nomenclature in this catalog to be new or a bit confusing.

The authors have raised some subgenera to the generic level as with *Mipus* deGregorio, 1885, and have placed certain *Latiaxis* species into new generic assignments. Much criticism is given when supposed new forms are described as new species. Dr. Kosuge has described many new *Latiaxis* over the past few years. Obviously long hours of research and consultation with his colleagues have brought the authors to re-evaluate some of the recently described species and placed them into synonymy. Noteworthy are *Latiaxis castaneotinctus* Kosuge, 1980 placed as a synonym of *Babelomurex princeps* (Melvill, 1912), and *Latiaxis* (*Echinolatiaxis*) *cerinamarumai* Kosuge, 1980, as a synonym of *Babelomurex ricinuloides* (Schepman, 1911). A few other recently described species by other researchers have also been placed into synonymy.

The text includes full nomenclature, synonymy, cross-reference to the plates, distribution, and a short description of the species. The text is split into English and Japanese. One of the color plates is given over to showing 6 species of living *coralliophilids* in situ.

There is no doubt that *Latiaxis and Its Related Groups* will be an important reference for identification, and is highly recommended. At a price of around \$20.00 it certainly is a reasonably priced publication in these days of high printing costs. It will definitely fill a gap until the authors' systematic monograph is published...



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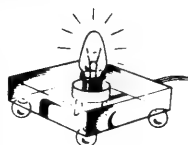
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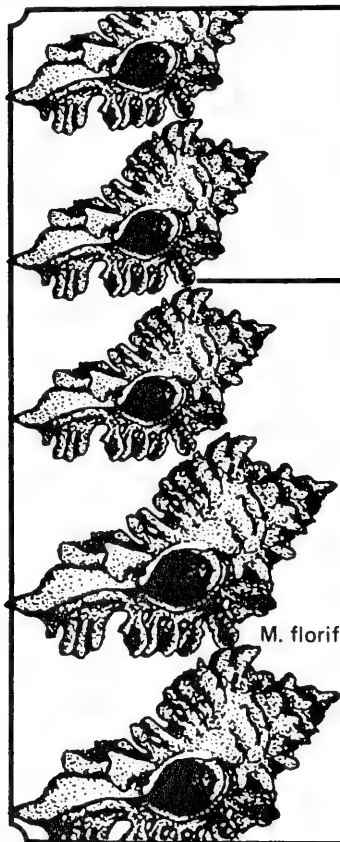
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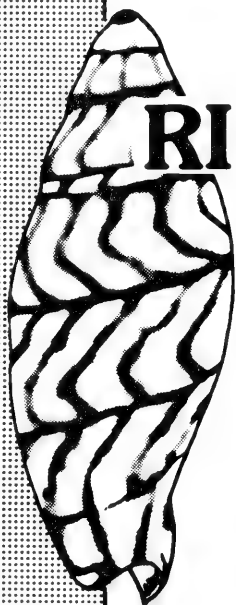
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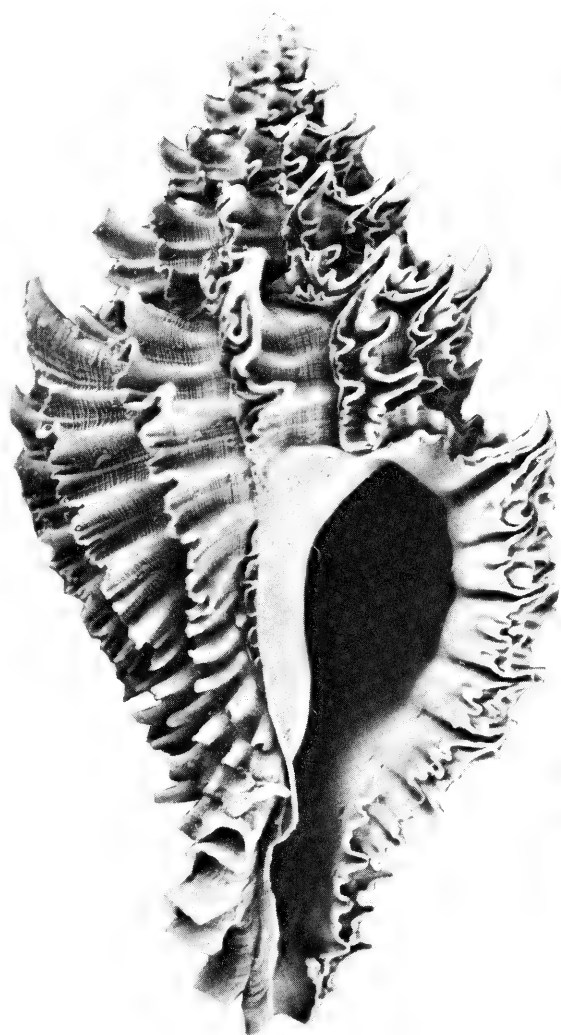
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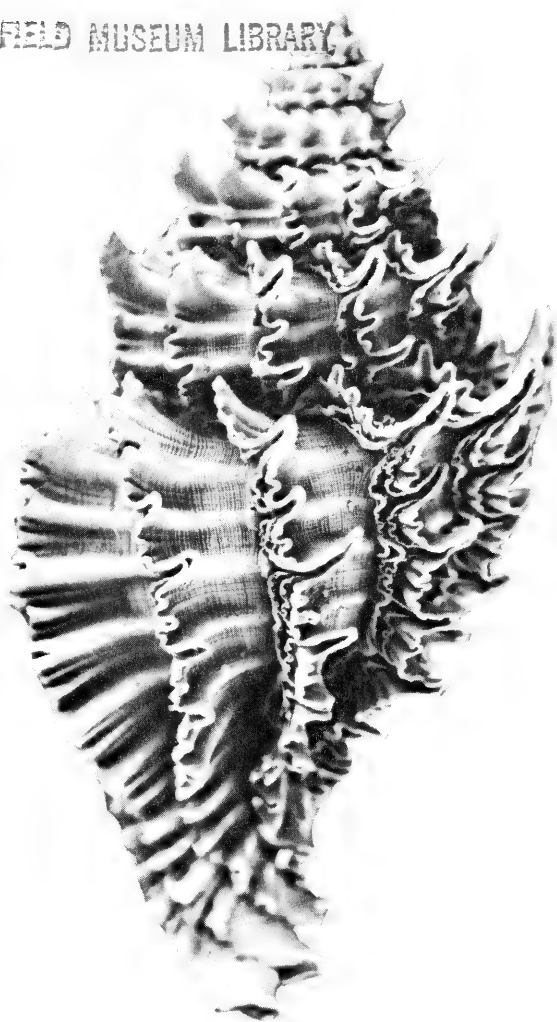
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JUNE, 1986



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In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.

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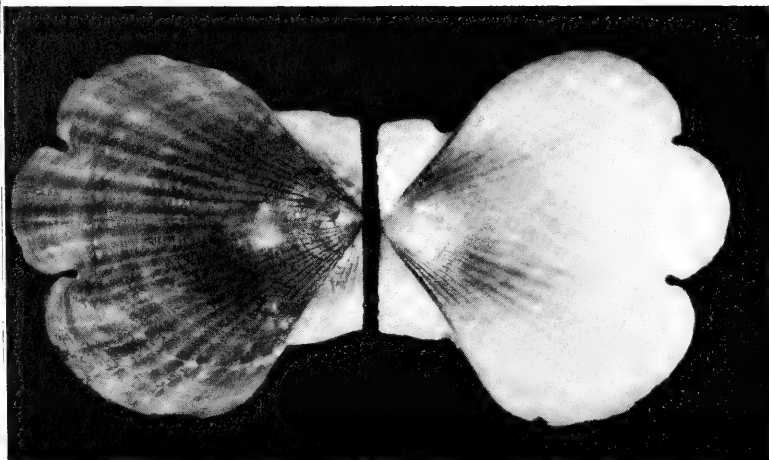
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**COVER PLATE:** *Pazinotus oliverai* (Kosuge), dorsal and ventral views (courtesy of Dr. Emily H. Vokes) of a 23mm long (12.5mm diam.) shell from Punta Engano, Mactan Island, Cebu, Philippines, in the collection of Glenn Duffy of Fort Lauderdale, Florida. Dr. Vokes notes that recent examples of *P. bowdenensis* have the same sort of linen-like surface.



## THE LAW

### AND THE PERIPATETIC SHELL COLLECTOR

Many shell collectors, commercial dealers as well as private collectors, have encountered problems returning with shell purchases to the United States from the Philippines. We wrote to the Philippine Bureau of Fisheries and Aquatic Resources, 860 Quezon Ave., Quezon City, Metro Manila 3008, requesting information on the laws governing the importation of sea shells. They sent the following reply which will be of interest to any C.O.A. members travelling to the Philippines:

*The Bureau of Fisheries and Aquatic Resources by virtue of Presidential Decree No. 704 and Presidential Decree No. 980, is mandated to inspect and issue Export Permit/Commodity Clearance for the exportation of fish and other fishery/aquatic products. In March of 1985, Executive order 1016 was implemented limiting the issuance of Commodity Clearance to those banned products, prohibited or controlled commodities and those covered by International Trade Agreement to which the Philippines is a signatory. By virtue of the implementation of the role on the Convention of International Trade in Endangered Species of Flora and Fauna (CITES), a CITES Permit for shells and other aquatic products listed as endangered is required before entry to U.S.A. and its territories. Shells and other aquatic products such as fashion accessories made of shells, live aquarium fishes, reptiles and amphibians require, therefore, an Export Permit/Commodity Clearance and certification prior to loading. Tourists who desire to bring out of the Philippines the above items should secure an Export Permit/Commodity Clearance from our designated Office.*

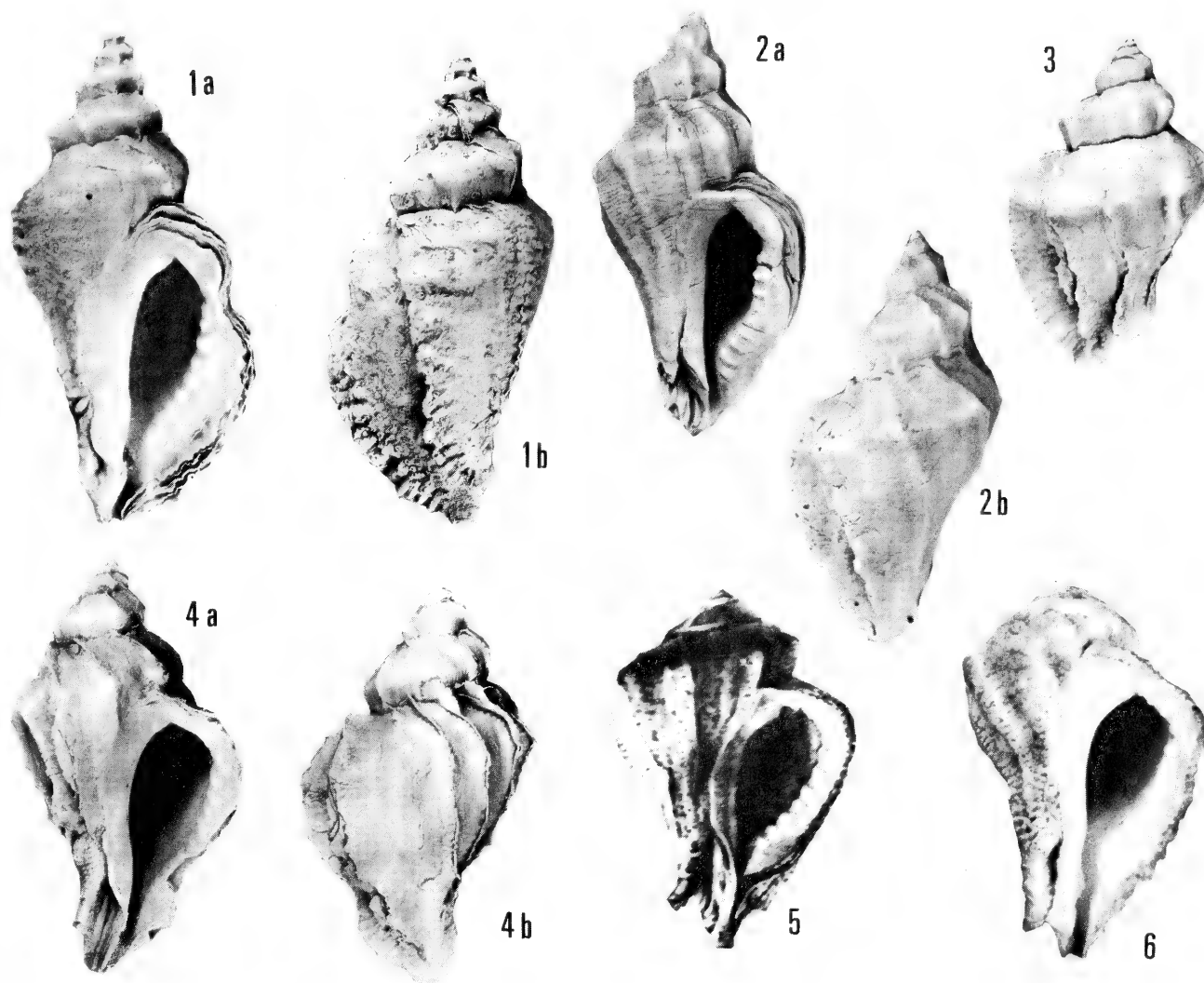
The letter is signed by Felix R. Gonzales, Director.

We subsequently wrote to the U. S. Fish & Wildlife Service to get the latest on Mollusca listed in the Appendices to the Convention on International Trade in Endangered Species of Wildlife Fauna and Flora (CITES). Currently covered by the Convention are numerous species of mussel, various land snails and all species in the genera *Tridacna* and *Hippopus*. For more complete information write to the Federal Wildlife Permit Office, 1000 N. Glebe Road, Room 611, Arlington, VA 22201.

*The Editors*

## SCALLOPED SCALLOP

An unusual, small (23mm diam.) *Pecten (Patinopecten) yessoensis* Jay, 1857 from Hokkaido, Japan, with an abnormal, scalloped edge, giving it a rather unique, dainty appearance.



## THE SHORT HAPPY LIFE OF VITULARIA LINGUABISON

by EMILY H. VOKES  
Tulane University

In 1966, road construction for the Cross-Florida Tollroad, better known as "Alligator Alley", exposed a marvelous area of unusually tropical-appearing fossils of Pinecrest age. There were large cassids and many other forms never before seen in Florida. Among these was, at that time (and maybe still), the most exciting find of my career --four specimens that were the first Caribbean examples of the genus *Vitularia*. *Vitularia* is a classic example of disjunct distribution, with one fossil species known from Europe (*V. linguabovis* from the Oligocene and Miocene of France, Austria, Hungary, Italy, etc.), and the remainder of the species from the Pacific: one fossil from Ecuador (*V. ecuadorana*), one living eastern Pacific (*V. salebrosa*), and the remainder Indo-Pacific. Here was the missing link!

Fig. 1. *V. salebrosa* (King & Broderip); height 73.0mm, diameter 34.2mm; Venado Beach, Panama (X 1). Fig. 2. *V. ecuadorana* Marks; PRI 20481 (holotype); height 59.1mm, diameter 30.5mm; Daule Fm., Ecuador (X 1). Fig. 3. *V. salebrosa* (King & Broderip); height 49.0mm, diameter 30.9mm; Guaymas, Mexico (X 1). Fig. 4. *V. linguabison* Vokes; USNM 645322 (holotype); height 70.0mm, diameter 42.5mm; Pinecrest Beds, Florida (X 0.75). Fig. 5. *V. crenifer* (Montrouzier); orig. illus., pl. 11, fig. 10, Jour. de Conchyl., v. 9, 1861; height 35mm, diameter 25mm (*fide* Montrouzier); holotype (?), Mus. Natl. Hist. Paris; height 33.4mm, diameter 22.7mm; (?) New Caledonia (X 1.5).

At this time the Pinecrest *V. linguabison* (as I named it) was thought to be Late Miocene in age, *V. ecuadorana* was thought to be Middle Miocene, and both were assumed to distinct from each other as well as being distinct from the living *V. salebrosa*. In the original description of *V. linguabison* (Vokes, 1967, p. 91, text

Fig. 7. Brann, 1966, pl. 51 (part), from Illustrations to "Catalogue of the collection of Mazatlan shells" by Philip P. Carpenter. Paleontological Research Institution, Ithaca, New York.

PALEONT. RESEARCH INST.

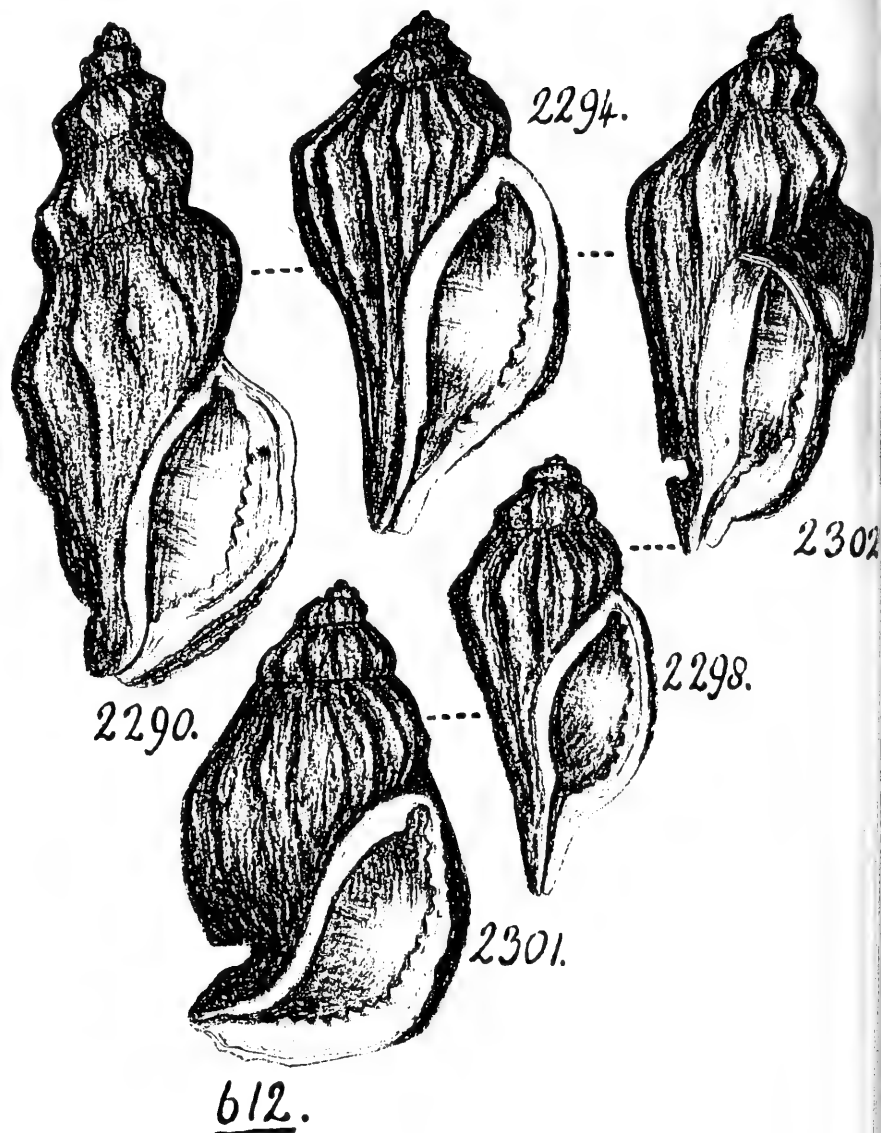
MAZATLAN, PLATE 5

fig. 1) it was noted that (on the basis of four specimens, remember) *V. linguabison* was closely related to *V. salebroso* but differed in the development of the axial ornamentation, with *V. salebroso* having stronger peripheral nodes that developed at an earlier stage and persisted to a later stage. The spire was thought to be lower than in *V. ecuadorana* and the number of labial denticulations was greater.

However, it was also noted: "The one most characteristic feature shared by all species of *Vitularia* is their exceeding variability." I should have suspected that the differences were not as cut and dried as they appeared to be at first glance. Since 1966 a few more examples of *V. linguabison* have been discovered, both from the Agueguexquite Formation of Mexico, which is the same age as the Pinecrest beds, and at Sarasota, Florida (=TU 1000). From the Mexican examples it was discovered that the protoconch of *V. linguabison* is identical to that of *V. salebroso* (see Vokes, 1977, text figs. 4,5), and is of three and one-half conical whorls, in contrast to the one and one-half bulbous whorls of the Recent Indo-Pacific species and a second Caribbean form that was named *V. dominicana* (Vokes, 1977, p. 194, text fig. 1).

Since 1966 we have also learned a great deal about the ages of the various formations in question and the Pinecrest is now known to be Middle Pliocene (ca. 3.5 million years) in age, as is also the Daule Formation of Ecuador, from whence came *V. ecuadorana*.

A trip to Ecuador to collect the Esmeraldas fauna, which is the same age as the Daule, resulted in the discovery of two more small specimens, which proved that *V. ecuadorana* has a protoconch identical to that of *V. salebroso* and *V. linguabison*. Oh dear! Now we have three "species" of an extremely variable form, differing in age by only 3.5 million years and separated by the Isthmus of Panama that only appeared about 3.5 million years ago.



Study of the Esmeraldas fauna demonstrated that there are several other species in common with the southern Florida Pinecrest fauna, which is not too surprising as the Esmeraldas area is located at the end of the Atrato Depression, which is where the last open seaway between the Atlantic and Pacific Oceans finally closed off. Thus, it became obvious that what was needed was an "agonizing reappraisal" of the relationship between the three species in question.

The unique specimen of *V. ecuadorana* was described by Marks (1951, p. 389, pl. 50, fig. 12) as being distinguished from the living *V. salebroso* in having a higher spire, a narrower aperture and more angulated periphery. However,



Fig. 8. *Vitularia linguabison* Vokes; Pinecrest Beds, Sarasota, Florida (photos courtesy of Francis F. Parry, Jr., Golden Gate, Florida).

the range of variation seen in *V. salebrosa* precludes this distinction, as evidenced by Carpenter's illustrations of the Reigen Collection (Brann, 1966, pl. 51 -- reproduced here in part). In fact, it is possible to match a Recent specimen of *V. salebrosa* (fig. 1) with the holotype of *V. ecuadorana* (fig. 2) exactly. The two are clearly synonymous.

This is not too unreasonable a conclusion. Study of the Esmeraldas fauna showed it to contain over 50% (10 of 18) living eastern Pacific species among the muricids. The range of *V. salebrosa* extends to as far south as Colombia, and in the Pliocene it may well have extended a bit farther south. The same species also occurs in the Early Pleistocene Charco Azul Formation of Panama, a specimen from TU 1499 measures 70mm in height, as large as the largest of Recent specimens (although Keen, 1958, p. 363, and 1971, p. 536, states 60mm maximum, there are specimens up to 80mm in the Tulane Collections).

But where does this leave the Floridian/Mexican *V. linguabison*? Comparing many examples of the fossil with Recent examples of *V. salebrosa* it became obvious that most examples of *V. salebrosa* are very high-spired, relative to most examples of *V. linguabison*. But there are low-spired specimens of *V. salebrosa* (fig. 3). Indecision reigned until I received photographs of a specimen (figure 8) taken at the Sarasota locality by Francis Perry, Jr. It was so peculiar that he could not identify it as *V. linguabison* and he wanted my opinion. With a sinking feeling I realized why--it looks just like *V.*

*salebrosa*!

In view of the identical nature of the protoconchs and the degree of variability displayed in all of the forms, the inevitable conclusion one must come to is that, alas, *V. linguabison* (fig. 4) cannot be distinguished from the living eastern Pacific species. It is always painful to have to kill off a species, but it is doubly painful to have to spell the demise of one that was so extra-special to you. But the first law of science is that one must be objective--if it kills you. So, rest in peace, *V. linguabison*, you are now just a synonym of *V. salebrosa* (King and Broderip, 1832).

The genus *Vitularia*, as a whole, is shrinking instead of growing in number of species. In 1966 I noted that there were then six known Indo-Pacific species. One of these, *V. candida* H. and A. Adams, 1864, was shown by Cernohorsky (1977, p. 96, fig. 13 - a syntype) to be a synonym of *Trophon wahlbergi* Krauss, 1848 (which is probably a *Nucella*). The remainder were all put in the synonymy of *V. miliaris* (Gmelin, 1791) by Radwin and D'Attilio (1976, p. 173).

In 1977, when describing *V. dominicana*, I took exception to the inclusion of *V. crenifer* (Montrouzier, 1861) in the synonymy of *V. miliaris*, as the original illustration (fig. 5) of Montrouzier's species shows a shell with a marked anal ridge, similar to that seen in the fossil species. Subsequently, I examined the specimen said to be the holotype in the Paris Museum (fig. 6) and not only does it not have an anal ridge--it does not even seem to be the same shell! Montrouzier (1861, p. 279), in the original description of the species, notes that he had "un seul exemplaire," and that one has a closed canal, which the specimen in the Paris Museum definitely does not. So, we are no closer to the



answer than we were in 1977. Thus, *V. crenifer* may still prove to be a valid species, even though I have never seen a specimen to match it. Otherwise we now have but two living species--*V. miliaris* (including its synonyms: *Murex vitulinus* Lamarck, 1816; *V. tuberculata* Swainson, 1840; *V. sandwichensis* Pease, 1861, *Transtrafer longmani* Iredale, 1919; and *Transtrafer asiatica* Kuroda in Kira, 1962) and *V. salebrosa* (with its fossil synonyms *V. ecuadorana* and *V. linguabison*; and one Recent synonym, *V. extensa* Smith, 1947, a low-spined form). There are two fossil species: *V. linguabovis* (Basterot, 1825) from Europe (with synonyms: *Murex edentula* Grateloup, 1847, and *V. salbriacensis* Cossmann and Peyrot, 1923), which is very similar to *V. salebrosa* (a complication I don't want to consider at all!), and *V. dominicana*, which is more akin to the *V. miliaris* line.

Although there is no question about which species are to be referred to the genus *Vitularia*, the assignment of *Vitularia* to any muricid subfamily is less easy. In 1967 (*ibid.*, p. 90) I suggested that, because of the purpuroid operculum and patulous aperture, perhaps the group should be placed in the Purpurinae (now Thaidinae, ICZN Opinion 886, 1969) until a radula might give the definitive answer. Unfortunately, when illustrated (Radwin and D'Attilio, 1976, p. 173, fig. 113), the radula was not in the least bit helpful but indicated placement in the subfamily Muricopsinae, an assignment that I found (1977, p. 192) and still do find unacceptable. Conchologically, the shells of *Vitularia* have little resemblance to the typical fimbriate shells of the Muricopsinae. But, except for the peculiar surface ornamentation, the shells are extremely similar in every way--color, variability, etc., to *Nucella lamellosa* (Gmelin, 1791), the common northwestern "Frilled Dogwinkle."

Therefore, given the conchological similarity to the Thaididae, the purpuroid operculum, and a radula that is not greatly different from *Mancinella*, although not very much like *Nucella* (see Fujioka, 1985, pl. 3), it seems to me that the best answer is still Thaididae.

#### ACKNOWLEDGEMENTS:

Sincere thanks must go to Mr. Francis F. Parry, Jr., Golden Gate, Florida, for the photographs of the pivotal specimen of *Vitularia* from Sarasota. In addition, I wish to thank Peter R. Hoover, Paleontological Research Institute, Ithaca, New York, for the loan of the type of *V. marksi*, and Philippe Bouchet, of the Museum National d'Histoire Naturelle, Paris, for the opportunity to photograph the specimen of *V. crenifer*.

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#### LOCALITY DATA:

The following are Tulane University fossil locality numbers:

1000. Pinecrest Beds. Pits at end of 17th Street (T36S, R19E), about 8 miles east of U. S. Highway 301 at Sarasota, Sarasota Co., Florida (=Warren Brothers Pit, Newburn Pit, Macasphalt Pit, etc., of various authors). 1499. Charco Azul Fm. Shelf exposed at low tide, Burica Peninsula, 8km south of dock at Charco Azul Oil Terminal, Puerto Armuelles, Panama.

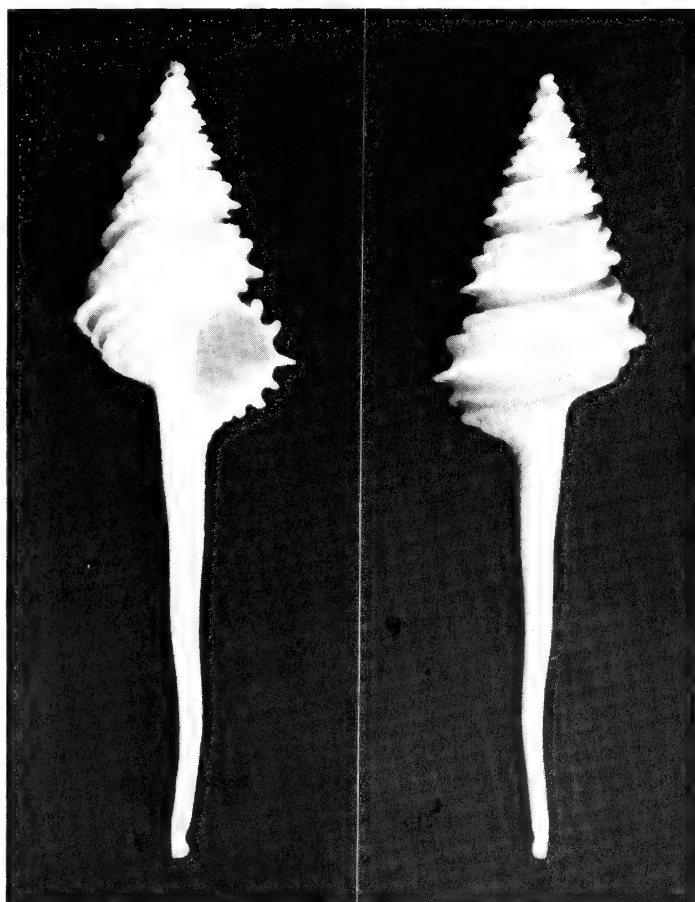


Fig. 1. *Columbarium altocanalis* (Dell, 1956), a great rarity, this unusually large and fine specimen, shown here at approximately natural size, was trawled off New Zealand. The maximum size is given as 52mm. It is certainly one of the most beautiful species of this interesting genus for its delicate and unusual sculpturing.

## SHELLS FOR THE AMATEUR

by R.FOSTER & C.GLASS

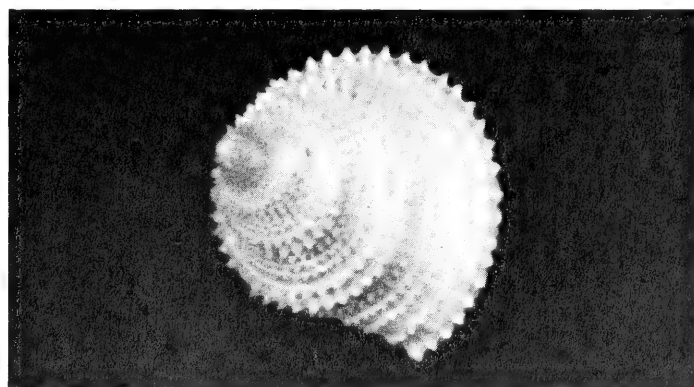
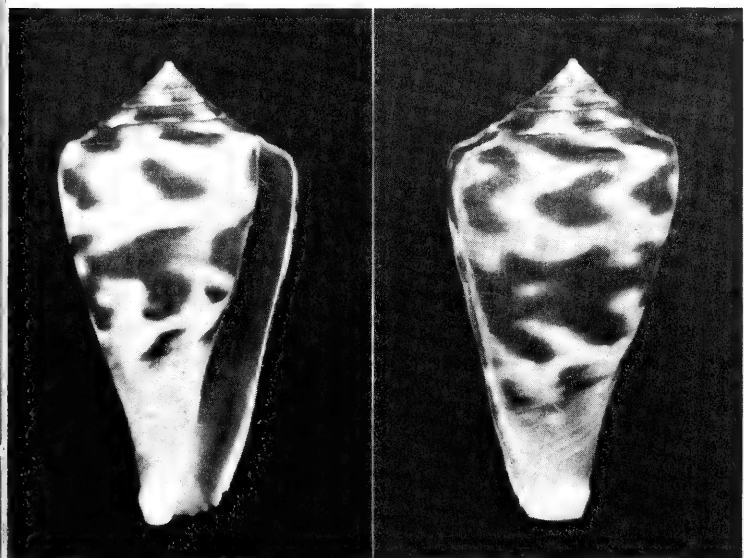


Fig. 3. *Calliostoma paucicostata* Kosuge, 1985, a brand-new species from deep water off Balicasag Island, Bohol, Philippines, where it was taken by fishermen in tangle nets. The figured specimen is approximately 15mm in diameter, a pearly golden color.

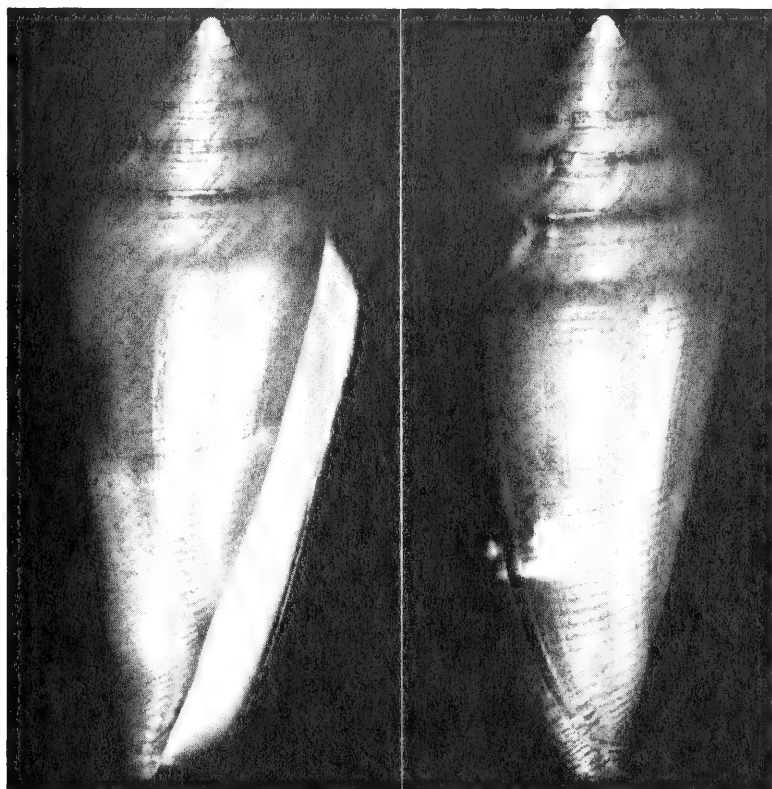


Fig. 4. *Conus lani* Crandall, 1979, a 44mm specimen trawled in deep water off Taiwan, now in the Kay Vaught collection (#4679). This rare, new species has been confused (by Philippine dealers) with the also rare, also new *Conus colorovariegatus* Kosuge, 1981.

Fig. 2 (left). *Conus bruuni* Powell, 1958, a 57.6mm specimen in the Peter Jamieson collection in New Zealand, a particularly fine specimen of this exceptionally rare species, coll. 25 Oct., 1975, leg. R.V.Acheron in 154m, northwest of Fleetwood Bluff, Raoul Island, Kermadec Islands.

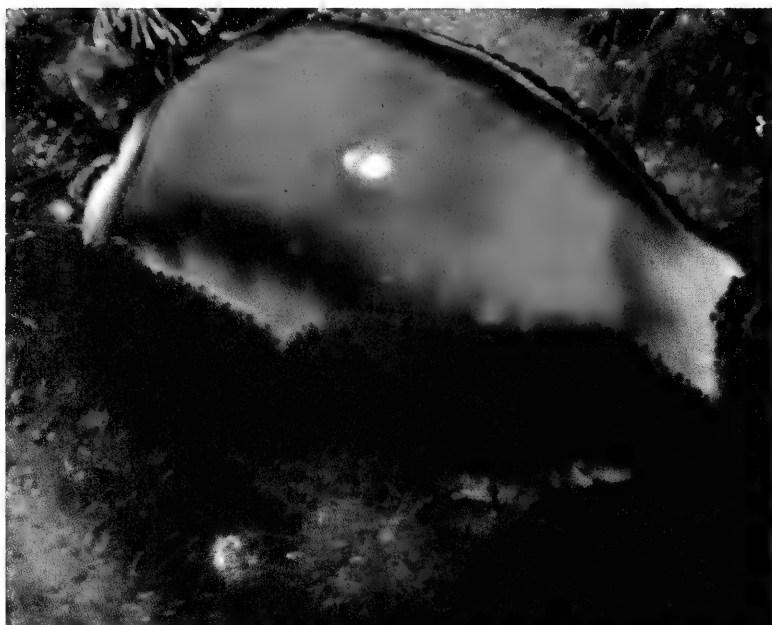


Fig. 1. Live "Chestnut Cowry", *Cypraea spadicea*, in habitat in southern California waters. Photo by Scott Johnson, Santa Barbara, CA.

## CALIFORNIA SEASHELLS PART XII: CYPRAEA

by C.GLASS & R.FOSTER

*Cypraea spadicea* Swainson, 1823

There's not too much that needs be said about the California "chestnut cowry", *Cypraea spadicea*, other than it's the only one we've got... and it's beautiful! (...which is more than can be said about some of our other species, such as *Conus californicus* which is our only cone... but that's another installment).

The most remarkable thing to us about the California chestnut cowry is how extraordinarily common it is. In warmer, tropical waters you may find several different species of *Cypraea* in a given area but rarely too many of one kind (except for the ubiquitous *C. moneta*, *C. caput-serpentis*, etc.) In southern California on almost any dive you are likely to see several cowries, under rocks, under ledges, even out in the open!

The chestnut cowry is white to almost bluish gray on the base and lower portions with a large, rich, chestnut brown, irregular blotch on the dorsum, outlined with a broad band of darker color. The length is given as 40-65mm. (Our largest shell is 65.3mm, our smallest mature specimen only 32.6mm long!) The range is given as extending from Monterey, California to Cedros Island, central Baja California.

### REFERENCES:

McLean, James H., 1969, Marine Shells of Southern California, Los Angeles County Museum of Natural History, CA.

## HELPFUL HINTS FOR COLLECTORS

by MINICYP

### Disposing of your collection

"What do I do with my shell collection?" Everyone of us will be faced with that decision either directly or indirectly through our heirs. It is the rare one among us who has thought about it, much less made this decision. Perhaps the time is now to start at least thinking about this decision.

In reality, the choices are relatively few. Let's look at them:

1. Give or leave the collection to your children or other relatives.
2. Leave your collection to your spouse.
3. Bestow your collection to a fellow collector.
4. Will or give your collection to your local shell club or to the COA.
5. Will or give your collection to a scientific organization, museum or university.
6. Sell your collection or make provisions to have it sold.
7. Some combination of the above.

Let's look at each of these choices. It is rare for a member of your family to share your collecting interest, be it shells, stamps, coins or what have you. When there is a true sharing of collecting interest and particularly when the collection is developed together, the choice becomes obvious. The collection should go to the survivor. However, even in this circumstance the ultimate disposition of the collection should be discussed jointly.

All too frequently the interest expressed in a collection is in the monetary value of the collection and not in the collection *per se*. This is not too unexpected since quite a few collectors make a point of emphasizing the value of their collection. If an interest of this type exists, it is well to halt it in its tracks. A collection is seldom worth what the collector thinks it is worth, much less what a potential recipient thinks it will be worth. If your collection ends up in the hands of a recipient whose interest is purely monetary, they will probably be disappointed with their acquisition. The problems associated with liquidating the collection may well exceed the gain.

The chances are that no relative, be it child, brother or sister, spouse or others will really be interested in having your entire collection. Thus, it is well to consider the other alternatives unless the collection was a joint one.

Assuming your spouse has no interest in maintaining your collection, he or she may still

be the logical person to receive your collection. Your spouse may well want to keep a few of the shells for memories' sake and sell the rest. As discussed above, your spouse should be well apprised of the real value of your collection. Don't leave him or her with expectations of a bonanza when it will only be a sighting of gold.

There may be circumstances where you and a fellow collector have had similar and close collecting interests. It is not illogical for that individual to receive your collection. Where an outright gift might be inappropriate, for any one of a number of reasons, an agreement to sell your collection to him or her for a pre-established price would be another way of handling the transfer. Of course, the deal works both ways. If you have a strong interest in his or her collection, you should have a similar opportunity.

Giving or willing your collection to your local shell club or to the COA is another way out. However, don't expect a tax deduction for your generosity. Most shell clubs have not got IRS recognition as non-profit, tax-free organizations. Just because the club has been incorporated as a non-profit organization does not mean the IRS agrees. If you are really looking for a tax deduction, consult your tax advisor before giving your collection to any organization. However, just because you can't get a tax deduction is no reason for not giving your collection to a club. If you give your collection to a club, don't attach unreasonable restrictions to your gift. Many of us would like to see our collections remain intact. This is most unrealistic unless you are prepared to supply the money to make it possible. A gift to a club probably means the collection will be sold or split up among the club members. A portion of the collection may be maintained for display or educational purposes. Most clubs simply do not have the facilities, finances or interest to keep any collection of any size intact.

The way to keep your collection intact and have it utilized and perhaps displayed is to give it to a school, museum or other scientific institution. Not only that, but you also will get your tax deduction. Let's talk about the tax deduction first. Yes, gifts to virtually all schools, museums and scientific institutions are tax deductible. However, the IRS of late has become downright sticky about such deductions. They want to know the value of the gift. This means an appraisal. Most institutions cannot afford the cost of an appraiser, so you or your estate will foot the bill. Check today's costs of appraisers. Usually it is a *per diem*, plus expenses, plus up to 10% of the appraised value. The cost of the ap-

praisal can exceed the value of your collection. How much is the tax deduction really worth to you or to your estate? Check with your tax advisor. You may well find that the deduction is not all that worthwhile.

Will the institution keep your collection intact? The answer is: probably not. Your collection will be merged with the institution's general collection unless some special circumstances prevail. The two circumstances which would prevail are, first, a truly unique collection. Most of us like to think of our collection as being something special, and to us it is. A museum, however, will probably not view the collection in the same light. The second circumstance is that you give the museum or institution enough money to insure your collection remain intact. Under these conditions, some institutions would decline a collection. Thus, if your collection ends up in an institution, it will undoubtedly lose its identity as your collection. There will be no brass plate saying: "DONATED BY JOHN COLLECTOR"

The chances of your collection or any part of it being displayed are probably less than the chances of your collection being held intact. I have visited a number of museums in the U.S. and a few in Europe and I have seen only one shell display worthy of mention, the Delaware Museum of Natural History. If shell displays exist, which is rarely, they are poor to mediocre. There may well be museums, besides the Delaware, that have worthwhile displays, but if there are, I have not seen them or heard of them (I probably will hear now). Thus, if you dream of your collection being mounted as a display or part of a display in a museum, keep dreaming!

I have visited four museums rated as having major shell collections and a number of museums with minor collections. My studies in these museums have been limited to the *Cypraea*, therefore, my remarks must be taken in this context. In all collections there were a significant number of shells misidentified. In no case was the *Cypraea* collection reasonably complete. In many cases even common species were missing. All major museums had enough *Cypraea moneta* to buy at least one wife, but with many other species only a relatively few examples. In one museum the cases and shells were so dusty that it was obvious no one had looked at the *Cypraea* in quite a few years. In most cases the museums were no where near up-to-date in entering their "new" acquisitions into their collections.

One of the better museums' horror stories takes place at our local natural history museum.

(continued on page 30)



## C.O.A. GRAND TROPHY WINNERS

**Palm Beach County Shell Show, West Palm Beach, FL, Feb. 26-Mar. 2, 1986.**

**WINNER: Robert L. Pace, Miami, FL**

**TITLE OF DISPLAY: A Study of a Superfamily of the Caribbean Region**

The display featured the Superfamily of the Cypraeacea, including lamellarias, eratos, trivias, cowries, cyphomas, pseudosimnias, simnias and pedicularias, with radulae, egg cases, freak forms, range extensions, color forms, subspecies, new species and growth studies.

Robert was born and raised in Florida and has been a diver for 26 years, a sheller for 13. He plans to study and collect only in the Caribbean and already has an extensive Caribbean collection in cones, murex and miters. He has self-collected some very rare shells such as *Conus granulatus*, *Cyphoma rhomba*, *Bursa pacamoni*, *Murex bellus*, *Pterotyphis pinnatus*, *Chlamys multisquamata* and *Chlamys mildredae*, to name a few. He also has collected about 5 species he considers new and which have been sent in to be named.

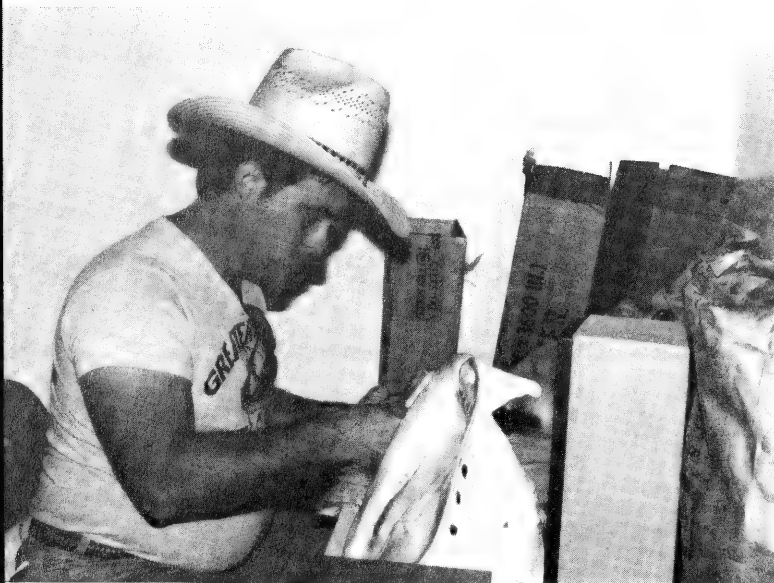


Fig. 1. Robert L. Pace working at the Greater Miami Shell Club's shell show.

**Astronaut Trail Shell Show, Melbourne, Florida, January 24-26, 1986**

**WINNER: Linda R. Zylman**

**TITLE OF DISPLAY: Seashells of the Caribbean Province**

This exhibit, consisting entirely of self-collected Caribbean seashells, contained 19 cases and measured 51 ft. It covered a broad spectrum of endemic species, from common to rare. Judges were Marty Gill and Robert L. Wagner.



Fig. 2. Linda Zylman with her coveted C.O.A. Grand Trophy. Photo by Liz Martin.

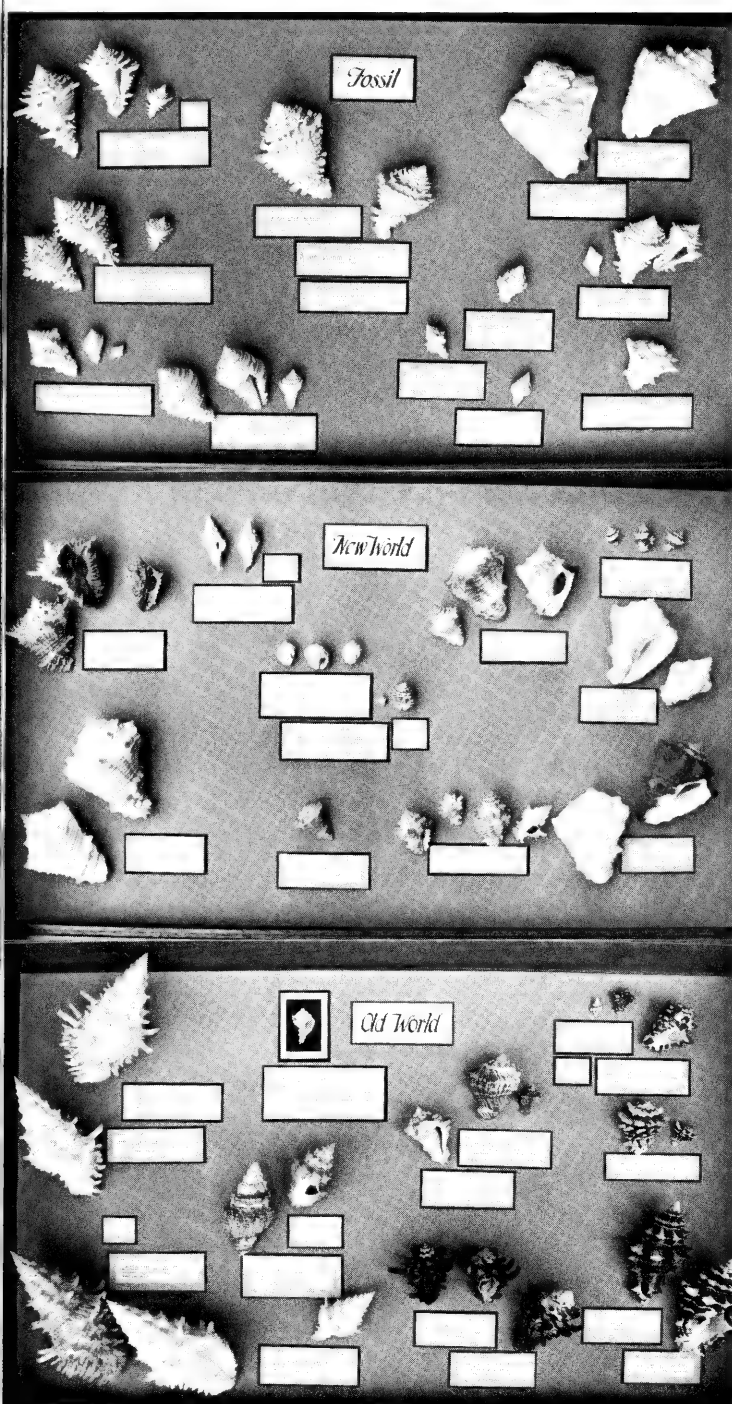
Linda Zylman is a member of the Palm Beach County Shell Club, the Treasure Coast Shell Club, and the Astronaut Trail Shell Club. After moving to Florida from Minnesota in 1976, Linda became interested in shell collecting as an off-shoot of her favorite pasttime, SCUBA diving. Linda now dives and collects throughout the Caribbean.

**Marco Island Shell Show, Marco Island, FL, March 12-13, 1986**

**WINNER: Sue Stephens**

**TITLE OF DISPLAY: World Wide Vasum**

3 3ft cases of 1 fossil, 1 New World and 1 Old World *Vasum* containing all Recent species, plus New World fossil ancestors in case one case, also a graph illustrating phylogenetic arrangement of *Vasum*. The fossils included 23 speci-



Figs. 3-5. Sue Stephens' award winning display of Recent world wide Vasum with one case of New World fossil ancestors.

mens of 12 species from 9 different locations covering 5 formations of the Pliocene and Miocene in Florida and the Dominican Republic.

Sue Stephens, frequent trophy and blue ribbon winner with *Murex*, surprised everyone with her complete one genus exhibit of world wide *Vasum*, a rarely collected and almost never displayed group.



Fig. 6. Dotty & Lowell DeVasure with the Sanibel Shell Show's C.O.A. Grand Trophy for 1986.

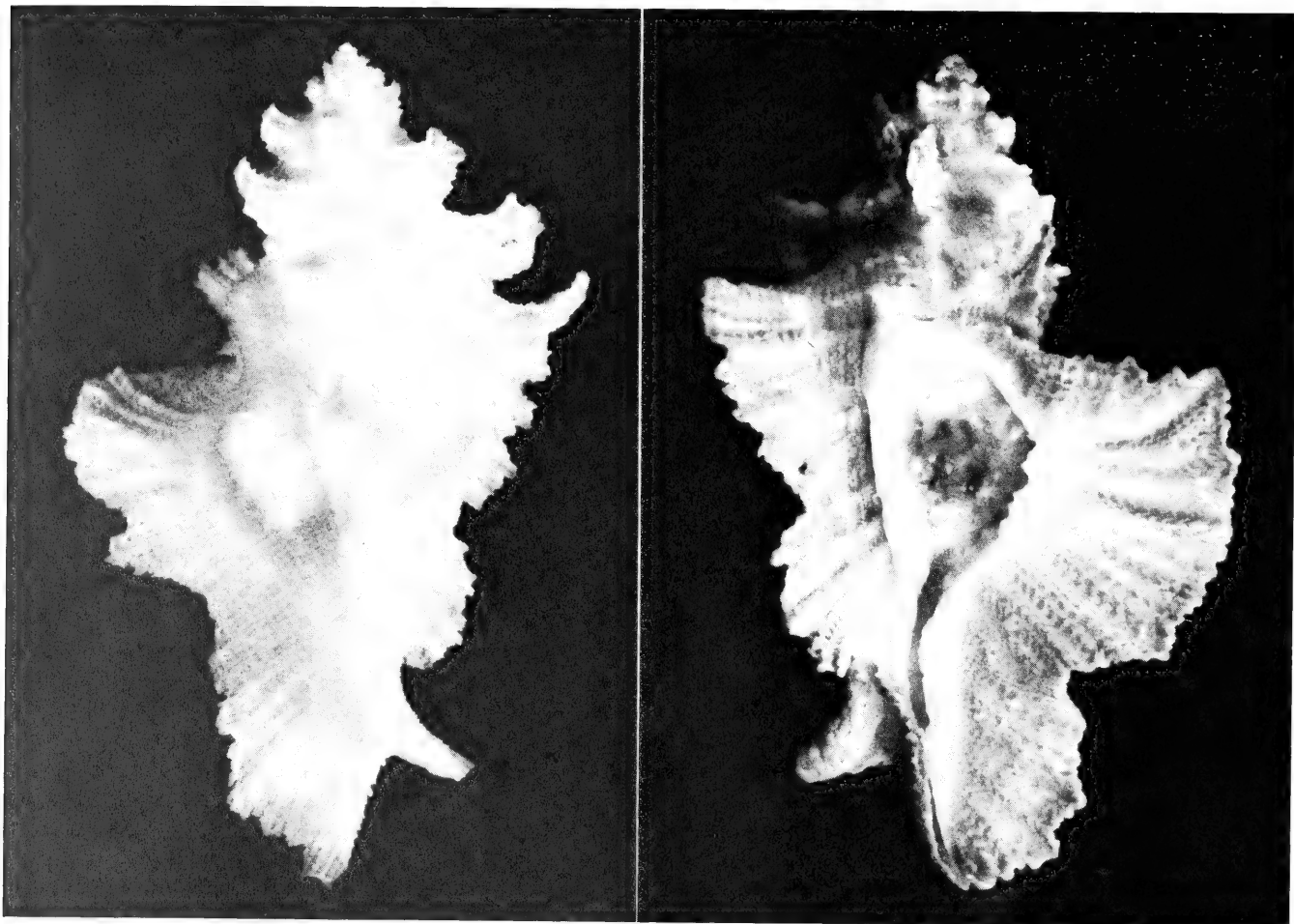
Sanibel Shell Show, Sanibel, Florida, March 6-9, 1986

WINNERS: Lowell & Dorothy DeVasure  
TITLE OF DISPLAY: Family Coralliophilidae

The display included 99 species and was based on the recently published book, *Latiaxis and its Related Groups* by Kosuge and Suzuki.

Lowell, a grain farmer, and Dotty, a Home Health Care nurse from Tekamah, Nebraska, became intrigued by shells on their first visit to Sanibel, Florida in 1965. Beachcombing led to shell collecting on faraway beaches including Mauritius, Senegal, Jeffrey's Bay (South Africa), New Caledonia, Fiji, Comore Islands, Guam and Australia and New Zealand. Recently retired, they divide their time between Nebraska and a beach home in Sanibel. The DeVasures, along with Bernard & Phyllis Pipher form the membership of the Tekamah Shell Club, claiming to be the world's smallest.

The Indianapolis Shell Club is sponsoring the 1986 Midwest Regional Shell Show on Saturday, August 9, and Sunday, August 10, in the Glendale Mall Shopping Center during mall hours. Aside from the COA Grand Trophy, exhibitors will be competing for awards in 25 categories. Judges will be Dr. Emilio Garcia, Mike Cahill and Jean Victor. There will also be shell dealer booths, craft shells and shell crafts for purchase. For additional information contact Denver D. Howlett, 3507 Whitcomb, Indianapolis, Indiana, 46224; tel. [317] 293-0737.



Figs. 1 & 2. Dorsal and apertural views of two pale orange to apricot specimens in the Foster & Glass Collection of *Pterynotus tripterus* from the Red Sea

## REMARKS ON PTERYNOTUS (MARCHIA) TRIPTERUS Born, 1788

by ANTHONY D'ATTILIO  
San Diego Natural History Museum

This species of *Pterynotus* has a very wide geographic distribution, from Hawaii across the Pacific and Indian Oceans into the Red Sea. The genus is very old geologically, going back to the Paleocene epoch. Some species have altered very little over millions of years.

Most species have three varices with raised flanges, narrow to moderately fusiform in shape with a more or less dentate, ovate aperture. Although white is a prominent color, many species range in color from pink to orange, or apricot to pale violet. These changes in coloration occur sporadically in most all natural populations.

I examined a most interesting example of this species through the kindness of Bob Foster and Charlie Glass. It is an unusual form of *Pterynotus tripterus* from the Red Sea. This is a robust specimen differing in morphology and color from the Indo-Pacific form. The Red Sea form is broadest at the shoulder; the flanges are

strongly undulate with more prominent cords. On its body whorl is a deep indentation of the flange at its base above the siphonal canal, followed by a broadening of the flange again on the siphon. (The entire shell gradually shades from apricot to weak orange.) The aperture is relatively smaller, also pale orange with denticles on both inner and outer lips. The denticles are numerous, as in the species as a whole. The specimen examined is richly scabrous.

In contrast, the Indo-Pacific form is essentially white with a yellow aperture. The flanges undulate little, if at all. Unlike the Red Sea form, there is no marked gap between the flange on the body and that on the canal.

It is possible that the normal Indo-Pacific occurs also in the Red Sea but we just don't know enough to be sure. Bob has informed me that the specimens they (The Abbey Specimen Shells) have received, from a SCUBA diving



collector, are all from the same locality on the Sinai coast in the Gulf of Akaba (or Aqaba). All have had this orange/apricot color so far. Apparently, as of this date, no other portion of the Red Sea has been similarly investigated. The

coastal areas are all under control of Islamic nations, which accounts for the locality data of most of the shells reaching us being labeled "Gulf of Aqaba", --the only area accessible to Israeli collectors.

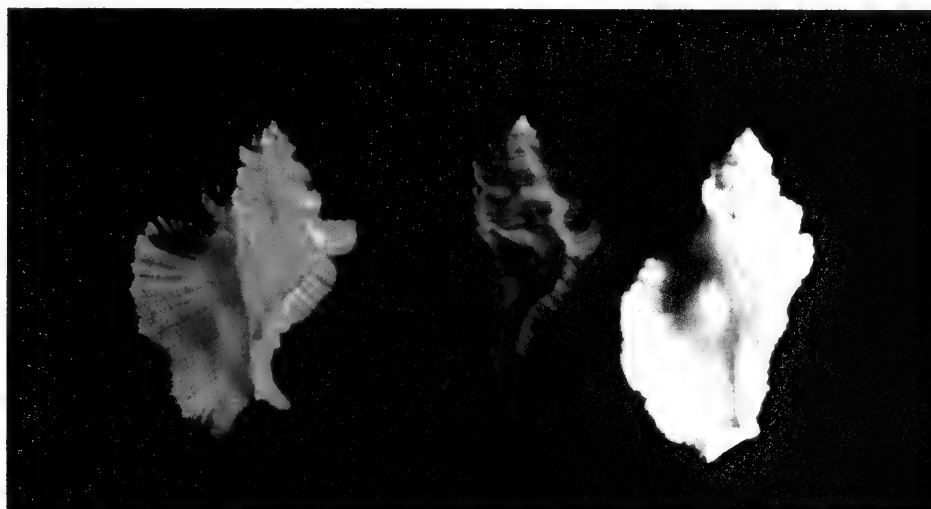


Fig.3. *P. tripterus*: left to right: an orange and the brown specimens from the Red Sea, and a normal, white, Indo-Pacific specimen (leg. Lisa Boucher in 40ft, Eniwetok Atoll, Marshall Islands, 61mm long, AbS 83-202).

## ADDENDUM

by ANTHONY D'ATTILIO

A photo slide (shown here) with 2 specimens of this Gulf of Akaba form adds some more insights into its morphology and color. The photo shows the two Akaba specimens along with one Indo-Pacific specimen. This last specimen differs in no appreciable way from what is known about the morphology and color of the species in its Indo-Pacific distribution.

The form from Akaba is variable morphologically and one may assume it occurs in the Red Sea where conditions are favorable. Commenting on the color and form of these two specimens, photos of which I have examined, it is first apparent that the shell is not only apricot or pale orange in overall coloration, but may be

a rich, medium shade of brown, ranging from brown-violet to violet-brown. The apertural flange at the shoulder of the apricot colored specimen is more extensively developed and continues as such to the siphonal region, interrupted between the body and siphonal canal by a single, moderate indentation. The form of the brown-violet example differs in the more moderate development of the apertural flange and is somewhat less concave along its margin at the base of the body whorl. It is the only Red Sea specimen known to date which is not apricot to pale orange. Another feature noted is that the flange on these Akaba specimens is angulate and a continuation of the weak shoulder flange.

## SHELL SHOW CALENDAR

### August

7th MIDWEST REGIONAL SHELL SHOW, Aug. 8-10, 1986

Hosted by the Indianapolis Shell Club at the Glendale Mall, Indianapolis, Indiana.  
(CONTACT: Marion R. Magee, 2117 Fisher Ave., Speedway, Indiana 46224, [317] 247-8079).

**IT'S NOT TOO LATE...** to make last minute plans to attend the 1986 C.O.A. CONVENTION in Fort Lauderdale, July 15-19. The Convention Site is the Sheraton Yankee Trader Hotel. Four field trips are scheduled, including one for snorkelers who are hardy swimmers and one for SCUBA divers. Regular and popular features will be the Dealers' Bourse and annual auction. And, of course, slide programs, door prizes, banquets and good fellowship. For further information, write or call Convention Chairperson, Ruth Chesler, 7401 S. W. Seventh Street, Plantation, Florida 33317; phone: [305] 791-5909



*MINICYP (continued from page 25):*

Their shell collection is being put into "custodial" storage (warehoused). The fresh water bi-valve collection is self-destructing because of lack of attention. Gifts have not been catalogued. They really don't know what they have. The collection is of absolutely no use to anyone, nor is likely to be even if they pull it out of the warehouse someday. Yet the museum is unwilling either to give the collection to some museum that might take care of it or to sell it.

The Bishop Museum is shutting down their Department of Malacology. The problem with museums is both lack of staff (money) and priorities in areas other than malacology. Museums are the original hoarders. Most are willing to accept, without conditions, most anything that comes their way. Thus they are suffering from an acute case of collection indigestion. Their collections are becoming too vast to be either properly cared for or utilized. Most museums have not yet embraced a policy of enlightened specialization.

Certainly there are many, many excellent displays and well curated collections in practically every museum. Unfortunately, shells are neither well exhibited nor are the collections well maintained in most cases. Again, there are exceptions, such as the fresh water bivalve collection at Ohio State. If you elect to donate your collection to a museum, see if the museum can really take care of the collection and utilize it effectively.

The last alternative is to sell your collection or make provisions to have it sold. There are several advantages to selling your collection besides the cash. By sale you give others the opportunity to enjoy the shells that you have enjoyed. There is a chance that at least a portion of your collection may be preserved intact and grow in the hands of another.

There are different mechanisms you can use to sell your collection. The first is to sell to a dealer. This is probably the quickest and simplest method of disposing of your shells. In selling to a dealer, it is well to remember that the dealer is buying your collection for the uncommon shells in the collection. Dealers already have an ample stock of the common shells. The price you get from the dealer will be the value of the better material. Remember, unless you have a local dealer, the sale may have to be consummated by letter and phone. Unless you have a fairly valuable collection, dealers will not be willing to come to your home to see the collection. Furthermore, you may have to pack the shells and ship them.

Another way is to sell the shells yourself.

You can sell to your local shell club, advertise in the journals and sell by mail or, as one person did, sell through a flea market. (They claim it worked very well.) You will find the good stuff goes quickly and to a greater or lesser degree you will be stuck with the common shells. One way to avoid this is to sell stuff by lots so that some of the common ones are included with the better shells.

Another way of selling is to auction off your collection. With a good auctioneer and a well lotted collection, auction offers the prospect of the best return. The problem here is two-fold. First, finding a licensed auctioneer who can handle shells and secondly, finding an auction location where you will draw enough potential customers. Perhaps a solution to the latter would be to hold the auction in conjunction with a major shell show.

Transferring your collection to your shell club to sell for you could be a way of selling, the club getting a portion of the proceeds and you the rest. A bit of legal advice should probably be sought here to insure no problem with the non-profit status of many clubs.

There are obviously various combinations of the above methods that could be used. You can sell the better material and give away the more common material. Schools frequently can use common shells. The collection can be parcelled out to several different groups.

No matter how you choose to dispose of your collection, there is one factor that should not be ignored. Only you really know your collection. Only you can put your collection in proper shape to go whatever way you should decide. If you do not dispose of your collection yourself, you should leave adequate records so that others can do the job. Someone should know where those records are and should understand the records. Further, if by any chance you have any type specimens in your collection, you should first take steps to insure that these end up in a museum.

If your collection is particularly valuable, the various disposal methods should be discussed with a tax advisor or your estate planner. However, no matter what its value, make your plans so someone doesn't have to make them for you. Your collection could end up in a trash can.

Richard H. Jones  
1432 Dorsh Rd., S. Euclid, OH 44121

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Fig. 1. Loading our 15 shellers in one of two hired boats at Rawai Beach, Phuket Island, for the trip to Koh Hee. Photo Victor Hermann.

## THAILAND'S PHUKET ISLAND A Shelling Adventure

by RUTH HERMANN

Phuket Island with its many uninhabited, satellite islands is a tropical paradise, rich in beauty and sea life, including some of the world's rarest shells. It lies off the west coast of south Thailand's peninsula, facing the Andaman Sea.

This island of 224 square miles contains natural surprises. It is a patchwork of rubber plantations, rice paddies, coconut groves, salt ponds, active and deserted tin mines, an occasional brightly colored temple, bounded by superb beaches and precipitous limestone cliffs. In the sheltered waters off its east coast oyster farms grow beautiful half pearls (*mabe*) and costly, full round pearls. The whole area is an unheralded realm close to the Thai people, who augment their simple way of life with a smile.

Our party, one of Dr. Joel Greene's shelling expeditions organized in San Francisco, arrived at Phuket's southern tip, at Rawai Beach and Resort, March 1985. We were John Pearson, Dr. James ("Jim") McLean, Edith Abbott, Joan Stewart, Ilene Tuttle, Katharine ("Kit") Stewart, Paul Newby, Ann and Homer Rhode, Pat and Fred Renz, Miriam Silvey and son, Clark Silvey, Victor Hermann and the writer. We occupied individual, air-conditioned cottages and welcomed the fine food in the elevated garden cafe for one week.

Right off, Patrice (pronounced pa-TREEK) Belgrave became my informant. He is a young

Frenchman who, with his French wife, runs the Ponemea Bungalow and rustic, open-air restaurant on Rawai Beach, a stone's throw from our resort. They had been on the island almost a decade, yet Patrice retains the dignity of a European gentleman. He is close to his Thai customers and employees in operating his restaurant and fishing boats. For special events he hires "sea gypsies". Each morning at about 9 o'clock I met his fishermen as they anchored his boat with the catch for the day from Koh Hee (*Koh*, Thai word for island).

Joe usually had live shells for me which had tangled in the nets down in 30 to 50 feet. These gem beauties were *Chicoreus brunneus*, *Murex tribulus*, *Vasum turbinellus* and *Haliotis ovina*, plus a large *Fungia* (*Verrillofungia*) *repanda* (Frisbee Mushroom Coral). He spoke no English; he could only indicate the *baht* for his pay. Patrice stood by smiling and answering my questions. He told me that the water temperature was 84°F and the daytime air temperature was a consistent 88° to 90°F.

He informed me about the sea gypsies (*Mawkens*) who for generations had roamed the seas with no homes but their handcrafted wooden boats. Fearing that they might be affiliated with the prevalent pirate raids, Thai officials some years ago relegated them onto land in Rawai and on Phuket's east coast, but this did not deter them from their daily seafaring mode of life.

Rawai is the springboard to finding common and rare shells. The number collected by our members depended upon their individual abilities. Ann and Homer, excellent divers, told me that only strong swimmers could be successful there, as the more uncommon shells were in 10 feet or more of water.

They took 20 species of *Cypraea*, including *C. cicerula*, *C. depressa*, *C. globulus*, *C. interrupta*, *C. stolidus*, *Conus aulicus* (among others), *Haliotis varia*, *H. ovina* (on rocks and dead coral in 10 to 15 feet), *Mitra* species (under rocks), *Murex adustus* (same habitat as for *Haliotis*), *M. palmarosae*, *M. torrefactus*, *Pecten larvata*, *P. nobilis thailandis*, *P. pallium* and *Strombus* species (small, in sand in 10 to 12 feet). On Rawai Beach at low tide they found *Cypraea arabica*, *C. carneola*, *C. erosa*, *C. vitellus* and *Drupa*, *Pecten* (small) and *Thais* species.

Our members who snorkeled in shallow water found few shells, while our rock turners at low tides were successful, if they could move the rocks. Any accessible place like Rawai or inhabited Koh Hee (Coral Island) was combed daily by housewives, old men and children, as shells are a part of their food supply and income.

I do not think there was one of us without a special shell find. While on Koh Bon, 20 minutes from Rawai, at low tide, Miriam took a live *Angaria delphinus*. I found a live, 110mm *Pleuroploca filamentosa* (in short sea grass by a boulder in five inches of water), *Cypraea annulus*, *C. arabica* and a 91mm *C. mauritiana* (with orchid and cream spots). The last three live species were under rocks in several inches of water. Finally, as I struggled to turn the heavy rocks, our boatman came to help.

That same afternoon at low tide, while walking in from the boat at Rawai, Miriam picked up a *Malleus malleus* and I a *Fungia* (*Verrillifungia*) *repanda*. Clark later collected a *Tonna canaliculata* at a nearby bay. Another day on a southern island Ilene found an unusual land snail fossil in a rock crevice above the tide line.

When our group was returning from Koh Pi Pi, Jim collected a *Murex ramosus* while diving in 15 feet of water near Koh Mai Thon. Edith, his assistant, noted that Jim got approximately 200 different species. Half of them were under 5mm, extracted from grunge from the Phuket area. He also took a *Haliotis asinina*.

We knew before leaving home that rare shells would be beyond the reach of even our expert divers, because of the depth of their habitat, particularly *Conus bengalensis*, *C. thailandis*, *C. chusaki*, *C. bullatus*, and *Cypraea guttata*. Only sea gypsies risk the approximate 80 meters (250 feet) for them, disregarding the dreaded, sometimes fatal "bends" and sudden monsoons with their dangerous wave action. According to Patrice, these youths' religious faith gives them fortitude without fear to meet death; they believe that they will return again for another life. Thus armed, they dive the extreme depths under hire of a middleman or a shell dealer.

Many of us bought rare shells. In Rawai I selected, among other rare species, two *Conus bengalensis*, both the dark and rarer golden forms which divers had taken in 1984 at 82 meters near Koh Raya, south of Phuket, and another dark one which a trawler had found at 180 meters (500 feet) near Koh Koa, also south of Phuket. While in Bangkok I also bought a golden one (with operculum) from Kantang, south Thailand. The prices were reasonable, considering the physical risks and the costs of equipment and maintenance.

At Koh Hee, John, Homer and Ann experienced an exciting, harrowing adventure. They hired a boatman to take them night shelling. In a 20-foot, handcrafted boat they left Rawai at 9 o'clock for a five-mile trip. Later John mentioned that the Andaman Sea was pitch-black

and the air was humid with tropical fragrance and heat lightning around them, a nightly affair while our group was at Rawai.

Arriving at the dive site after a 45 minute trip, they saw the sea gypsies' fluorescent poled lights above their boats every half mile, illuminating approximately a 30 by 30 foot square and the same in depth. They were diving for lobster, large *Trochus* and *Tonna* shells to sell and eat.

They dropped anchor about 100 yards from shore. A powerful lantern on the boat turned night into day. With twin catalyst lamps, fueled by a butane tank fastened to a raft mounted on styrofoam blocks, and hand-held underwater lights, they had excellent visibility. Ann directed them by a 200-foot line tethered tightly to the boat. While collecting, they had to watch the craft as it dropped with the tide.

John and Homer found the area a shell hunter's paradise. They took *Cypraea crenata*, *C. errones*, *C. globulus*, *C. histrio*, *C. lamarckii*, *C. lynx*, *C. mauritiana*, *C. talpa*, *C. tigris*, *Conus chusaki* (one each, 70mm, in sand pockets at 20 feet), *C. geographus* (purple-brown), *C. litteratus*, *C. lividus*, *C. monachus*, *C. textile*, *C. virgo*, *Murex ramosus* (one 13 inches), *Terebra* species and *Turbo marmoratus*. John said that the shells were unusual color forms not seen before by his friends.

After two hours they surfaced because of an increase in wind and wave action. The boatman warned by gesturing, "big winds and much rain will come soon". They hauled anchor. The motor finally started. Wind and waves increased

Fig. 2. A young sea gypsy (left) talks to one of our boatmen as he prepares his gear to dive for shells for us near Koh Mai Thon, shown here in the background. Photo Victor Hermann.





Fig. 3. At Koh Bon The author holds a live *Pleuroploca filamentosa* which she collected here at low tide. Note the full bucket of shells, rubber gloves and straining spoon. Photo John Pearson.

rapidly and monsoon rain pelted them. The earlier, one-foot waves crested to five feet, pushed by winds up to 40 miles per hour. John felt that the storm was so intense they would have been smashed to pieces on Koh Hee had they stayed longer.

With zero visibility and the boatman struggling to keep the motor running, more than once John thought that the boat would roll over in the pounding waves, but they kept reassuring each other that they would make it. After one and a half hours, they spotted shore lights. Once at Rawai the storm subsided. They took shelter in a lighted shed where, as John wrote, "we warmed up to the treasure chest of shells. I feel they were worth every minute of the adventure".

Miriam, Clark, Vic and I found the Phuket sea gypsies a fascinating people who romanticized those islands and deep waters. We decided to make a trip with a group of them in their boat to observe the collecting of shells which would be divided among us. We engaged Patrice to arrange the island shelling trip of his choice.

He hired two boatmen, a helper, two shellers and one to harpoon the white *Yep* (fish) for a barbecue.

The last minute we took on five of our members. We then had to transfer from the sea gypsies' shallow draft, motorized boat to Patrice's larger fishing craft, twice each way. Once on Koh Mai Thon, an hour's trip, we left the five shellers at the small beach near a rocky point, where they wanted to snorkel, and we four continued with the sea gypsies to carry out our original plan.

We dropped anchor at the other end of the island, about 100 to 150 yards from the rock-bound shoreline. The day was brilliant and the Andaman Sea never bluer. The divers donned their snorkeling masks, each supplied by approximately a 100-foot plastic air hose fed by a tank of compressed air which was controlled by the boatman. They stayed down at 45 feet, then 60 feet without surfacing for about two hours while our boat moved as they progressed. As a precaution, Patrice dove once to check on them.

Finally they appeared with two medium-sized bags of shells and a sack of *Yep* that later was delicious after being barbecued over coconut husks. Fortunately, many of the shells were in duplicate. All were divided among the nine of us by a drawing. No one could identify one mollusk with a rose-red aperture and opaque operculum. Kit, who won it, later gave it to the California Academy of Sciences in San Francisco. It puzzled the staff, although eventually it was classified as a rare collumbellid. While Kit was at Koh Mai Thon that day, she found a fresh-dead *Haliotis varia*.

The two bags contained *Angaria delphinus*, *Astraea rhodostoma*, *A. unguis*, *Bursa rubeta*, *Chicoreus brunneus*, *Chlamys gloriosus*, *C. larvata*, *C. senatorius*, *C. squamosa*, Columbellid species, *Conus flavidus*, *C. frigidus*, *C. magnificus*, *C. penanceus*, *C. rattus*, *C. striatus*, *C. terebra*, *C. textile*, *C. virgo*, *Cymatium pileare*, *Cypraea annulus*, *C. arabica*, *C. caputserpentis*, *C. carneola*, *C. isabella*, *C. talpa*, *C. vitellus*, *Engina mendicaria*, *Excellenchlamys spectabilis*, *Gyrineum gyrinum*, *Isognomon alatus*, *Lambis chiragra arthritica*, *L. scorpius*, *Lima lima*, *Mancinella alouina*, *Murex palmarosae*, *M. ramosus*, *M. rectirostris*, *M. torrefactus*, *Pecten miniaceus*, *P. pallium*, *Pinctada margaritifera*, *Planaxis sulcatus*, *Periglypta puerpera*, *Pleuroploca filamentosa*, *P. trapezium*, *Spondylus barbatus*, *S. buteri*, *Strombus mutabilis*, *S. urceus orrae*, *S. urceus urceus*, *Thais mancinella*, *Tectus pyramis*, *Trochus lineatus*, *T. maculatus*, *Turbo argyrostoma*, *Tutufa tennigrinou*, *Vasum turbinellus* and *Vexillum exasperatum*.

Some years ago various malacologists were of the opinion that the Phuket area shells, both



*A SHELLING ADVENTURE (continued):*

rare and common, had been severely over-collected. Today, apparently, the situation is being reversed. Members of our group were overjoyed with the many fine and rare shells they self-collected. At the same time, we purchased rare shells, fresh from their habitat, at affordable prices...a truly thrilling experience!



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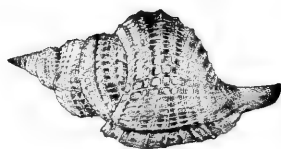
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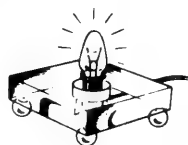
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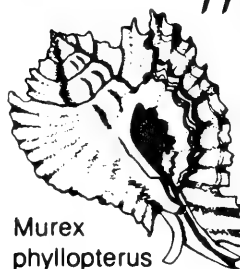
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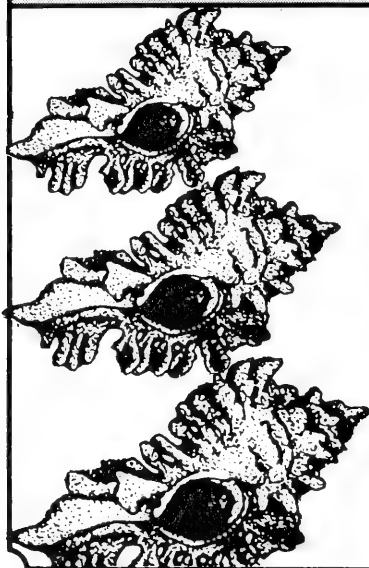
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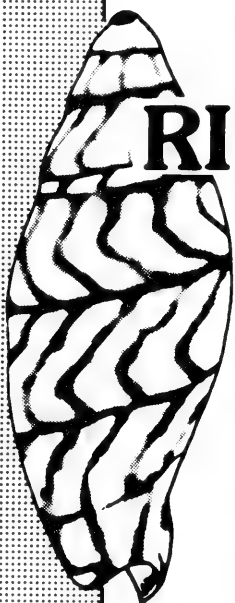
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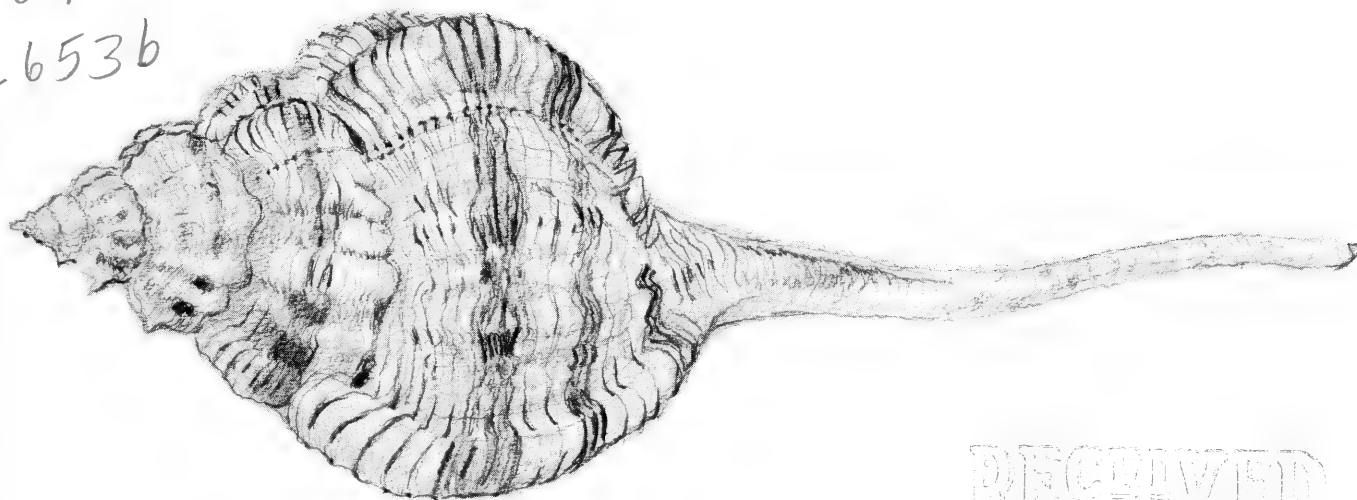


# CONCHOLOGISTS OF AMERICA BULLETIN

VOL. 14, NO. 3

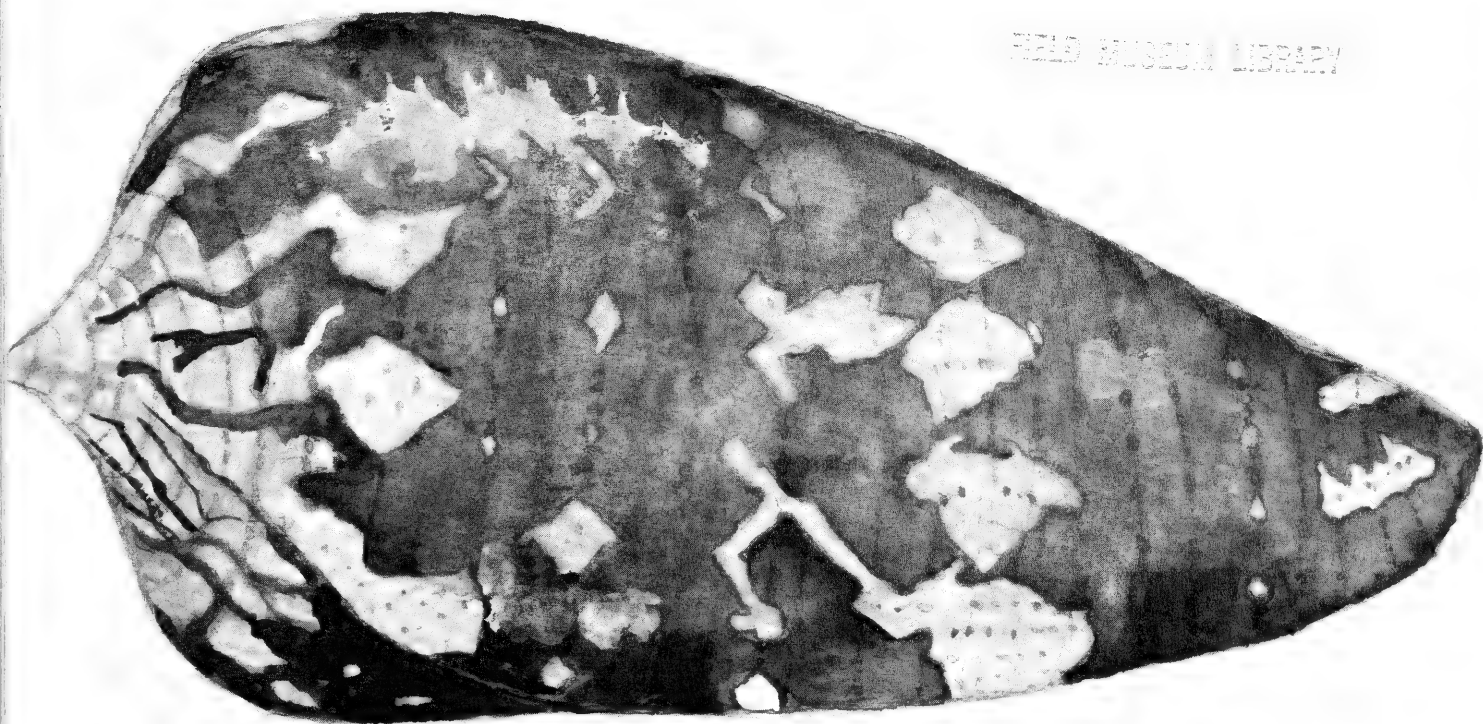
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#### BULLETIN

Editor: Charles Glass  
Box 3010, Santa Barbara, California 93130

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COVER PLATE: sketches (by your editor, C. Glass) of *Murex hirasei* Dautzenberg in Hirase and *Conus cedonulli* Linne.

Last Minute Additions to Shell Show Calendar (see page 53):

Oct. 24-26: North Carolina Shell Show, Wilmington, NC. Contact Alta Van Landingham, Box 452, Hampstead, NC 28443, (919)686-7537

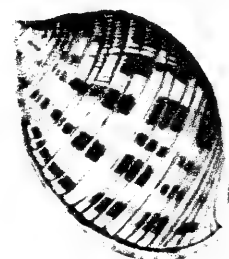
**SHELL COLLECTION** of interest to the serious amateur. The collection of the late Ross Lemire (Thornhill, Ont., Canada) contains approximately 3,000 shells and 2,000 microscope slides relating to these specimens which include land, freshwater and marine mollusks. The largest group are marine gastropods collected in the Caribbean area and Florida. The collection contains few spectacular "specimen" shells as the collector's primary interest was taxonomy. Extensive notes and sketches were made for several families, but especially the Littorinidae. Also, a library of books and monographs related to mollusks is for sale. For more information contact Dr. Robert Lemire, Box 549, Pinawa, MB Canada, R0E 1L0.

## CRABS ARE CREATURES TOO

We were sent a rare cone shell as supposedly live-collected from a trusted and valued South African contact. After examination of the specimen, we questioned the fact that it was, indeed, live-collected. He told us that he was assured that it was live-collected but would check again with the person from whom it was obtained. "Yes! Absolutely!", replied the collector, "It was live-collected. There was a live crab in it!"



Scotch Bonnet



## CLUB CORNER

### The North Carolina Shell Club

This club has been in existence since 1957, so we are in our 29th year! It began in Raleigh with about 25 people who had interest in collecting shells. At present our club has about 350 members, all scattered over North Carolina and in adjoining states. At meetings we usually have from 80 to 100 members present.

We were instrumental in getting the "Scotch Bonnet" (that is, *Phalium granulatum*) named our state shell. We were one of the first states to have a state shell.

At present, we have four coastal meetings a year, one inland meeting, a shell show and a banquet. Our meetings are for a whole weekend, Friday and Saturday. We have programs, slide shows, auctions, trading, identifications, field trips and a good time in general. Our coastal meetings have the field trips, usually to some off-shore island or any other place that promises good shelling. For the past several years our annual show, in October, has been one of the largest shows, with up to 850 feet of exhibits.

Our goals are to promote shell collecting in all forms and to provide our members with programs and trips to promote their own type of collecting. Dues for 1987 are \$5.00 per person and \$8.50 for a whole family, and may be sent to Carolyn Smith, 5300 Fair Oaks Rd., Durham, NC 27712

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# MORPHOLOGICAL VARIATION IN *MURICODRUPA JACOBSONI*

Emerson and D'Attilio, 1981

by ANTHONY D'ATTILIO

San Diego Natural History Museum

A specimen, figure 1, of *Muricodrupa jacobsoni* Emerson and D'Attilio, 1981, in the collection of Glass and Foster, is of interest because of the notable variations in the morphology of the shell surface. A comparison easily noted is the much greater width of the spiral cords on this specimen relative to the narrow cords on the specimen (figure 2) from Guadalcanal. This Guadalcan specimen agrees more closely to the typological material in the large window-like squarish pits found over the surface of the shell as a whole. The Glass and Foster specimen because of the broad, more or less, coalesced spiral bands, shows little of the square pits except for those above the shoulder.

The smaller 27mm Guadalcanal specimen agrees in having seven varices which, when fully mature as on the 40mm Glass and Foster specimen, suffers a reduction to five on the body whorl. Other differences found were only of minor significance.

The protoconch was lacking in all specimens examined, including the typological specimens. The type locality is Yanu-yanu-i-lona Island, Fiji Islands. On present evidence the species appears to have a western south Pacific distribution.

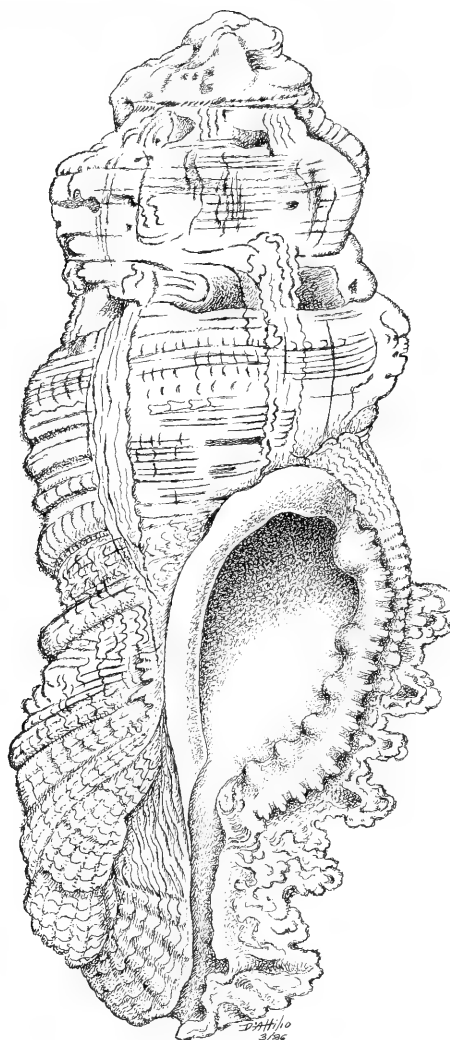
The specimen of *M. jacobsoni* in the Glass and Foster collection, Catalogue No. 82-1729 has a height of 40mm x 23mm width and was collected from Guadalcanal, collector unknown. The 27mm specimen, SDNHM 87712, was collected as noted above also at Guadalcanal by Mr. Donald Pisor.

## ACKNOWLEDGEMENTS:

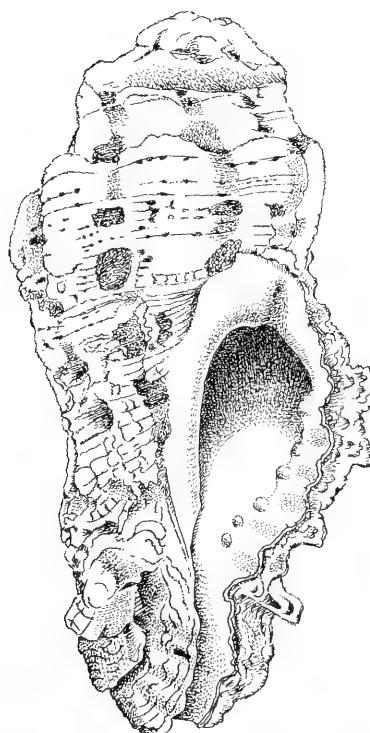
I am grateful to Mr. Charles Glass and Mr. Robert Foster of Santa Barbara, California, for the loan of their unique specimen, and to Mr. Donald Pisor of San Diego, California, who graciously donated the Guadalcanal specimen he personally collected at this locality.

## LITERATURE CITED:

1981. Emerson, William K. and Anthony D'Attilio, Remarks on *Muricodrupa* Iredale, 1918 (Miricidae, Thaidinae), with a description of a new species. *Natilus* 95(2) pp. 77-82, 9 figs.



*Muricodrupa jacobsoni*: fig. 1 (above), the 44mm specimen (AbS 82-1729) and fig. 2 (below), the 27mm specimen (SDNHM 87712).



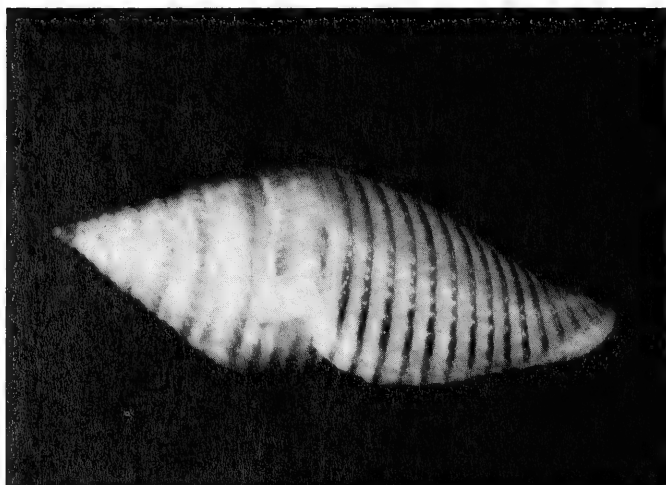


Fig. 1. *Conus coromandelicus*, a 37mm specimen dredged in 60m off Madras, India in 1984 and now in the author's collection.

## CONUS COROMANDELICUS E.A. SMITH, 1894

by KAY C. VAUGHT

8646 E Paraiso Drive, Scottsdale, Arizona 85255

The controversy over the systematic placement of *Conus coromandelicus* is of long standing. This deep-water Indian Ocean cone, with its rather unusual shape for a *Conus*, has been either ignored or tossed from the Conidae to the Turridae and back again. An historical run-down on the literature is interesting.

E.A. Smith, in describing his new species, assigned it to the genus *Conus*. Since he was curator of the British Museum (Natural History) for many years, and was a knowledgeable and reputable malacologist, this decision could not have been made lightly.

J.C. Melvill, in 1904, considered *C. coromandelicus* a living analogue of the extinct genus *Conorbis*, and placed it in the Conidae, but indicated also the close relationship to the Turridae.

Johannes Thiele, in 1931, published a drawing of the radula of *coromandelicus*, assigning it to the genus *Conorbis*, which he placed at the very end of his Turridae section, immediately before the Conidae. The radula is definitely that of *Conus* (fide W.W. Cernohorsky, 1978).

In 1966 A.W.B. Powell retained *coromandelicus* in the turrid subfamily Conorbininae, which he had erected in 1942. However, he questioned this placement, stating that "its radula, consisting of a pair of slender marginals with a several-barbed tip, indicates that this Recent species as least (of the Conarbinac) belongs in the Conidae." He further speculates that this species "could well be the radicle from which the Recent Conidae have ascended."

Marsh and Rippingale, in their 1974 "Cone Shells of the World", listed *coromandelicus* in the *Conus* subgenus *Asprella*. In his 1978 "Conidae of India", Alan J. Kohn, with no further comment, places *coromandelicus* in the Conidae. Dieter Rockel in 1984 lists *coromandelicus* as a valid *Conus* species in the "gruppe" of *C. sowerbii*. More recently, Coomans, Moolenbeek and Wils (1985) have listed the species as valid in their ongoing "Alphabetical Revision of the Conidae".

As for the turrid proponents, *coromandelicus* was assigned to the Turridae by Wagner and Abbott in their 1978 "Standard Catalog", Jerry Walls also chose the turrid assignment, as did John Tucker in 1984 in his (unpublished) species lists. There may be others in publications not encountered to date.

The general shape of *coromandelicus*, though not the usual "conoid" shape, is not far distant from several other cones - *C. stupa* and *stupella*,



Fig. 2. Radula of *Conus coromandelicus* (reproduction of fig. 460 in Thiele's *Handbuch der Systematischen Weichtierkunde*.)

or *C. praecellens*, to name a few. The operculum is elongate-ovoid, very similar to other cones (personal observation).

Whether the genus *Conorbis* belongs in the Turridae or the Conidae remains a moot question. Since it is impossible to determine the radula of a fossil (and most if not all known conorbids are fossil), this will not be settled immediately. Considering that the superfamily Conacea is composed of the families Conidae, Turridae and Terebridae, it is not surprising to find close relationships between them.

The evidence seems to indicate rather overwhelmingly that *C. coromandelicus* DOES belong in the family Conidae. However, knowing cone collectors and the unceasing turmoil with which they delight in surrounding themselves, more may be heard on the subject!

## LITERATURE CITED:

- Coomans, Moolenbeek and Wils - 1985 "Recent Conidae" #7  
 Basteria Vol.48(6):221-312 - 1985  
 Kohn, A. - 1978 "The Conidae of India" J. Nat. Hist. 12:295-335  
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 Thiele, J. - 1963 "Handbuch der Systematischen Weichtierkunde" A. Asher & Co., Amsterdam (1st. ed., 1931) (p.372, fig.460)  
 Wagner, R. and R.T. Abbott - 1978 "Standard Catalog" - American Malacologists  
 Walls, J.G. - 1979 "Cone Shells" - TFH Publications, N.J.



Fig. 2. A 72.5mm *Megasurcula carpenteriana*; the species has a range of Bodega Bay, CA to Cedros Is., Mex. and a maximum recorded size of 95mm.

sandy offshore habitats. The most obvious differentiating characteristic is the smaller size of *M. stearnsiana*; other, more technical differences are greater concavity of subsutural area of *M. carpenteriana* and the generally more rounded, typically less shouldered, never nodular whorl of *M. stearnsiana* - and (a not too scientific reason, perhaps) *M. stearnsiana* is typically prettier, cleaner and less eroded.

We have encountered *M. carpenteriana* and *M. stearnsiana* in 60 to 100 feet of water out of the Los Angeles Harbor (near "Horseshoe Kelp" reef), out of the Ventura Harbor and, most commonly, out of the Santa Barbara Harbor (near "Canby Reef" and, as always, on silty sand), as well as off San Miguel and Santa Cruz Islands.

## REFERENCES:

- Abbott, R. Tucker, 1974, American Seashells, 2nd ed., Van Nostrand Reinhold, New York.  
 McLean, James H., 1969, Marine Shells of Southern California, Los Angeles County Museum of Natural History, CA.



Fig. 1. A large 43mm *Megasurcula stearnsiana*, an unusually small (45mm) *M. carpenteriana* and a typical 34mm *M. stearnsiana*. The latter has a range of Monterey, CA to Todos Santos Bay, Mex. and a maximum recorded size of 60mm.

## CALIFORNIA SEASHELLS PART XIII: MEGASURCULA

by C.GLASS & R.FOSTER

*Megasurcula carpenteriana* (Gabb, 1865)  
*Megasurcula stearnsiana* (Raymond, 1904)

These two California turrids are very similar in appearance and, to the untutored eye, somewhat difficult to distinguish from each other and they are often found in the same area, silty,

### LOST AND FOUND AT COA CONVENTION

Bea Winner found a ring in the program room at the COA Convention in Fort Lauderdale last July. She writes that it must have sentimental as well as monetary value, and asks the owner to write her and describe the ring so that she can return it. Her address is 342 Southwind Drive, North Palm Beach, Florida 33408.

### FOUND but not lost AT THE CONVENTION

After almost 50 years Deena Martin of the Long Island Shells Club recognized Ben Wiener at the COA Convention. At the time of their last meeting Ben worked at a gas station in Hemstead, Long Island. How many of us are recognizable after the wear and tear of 50 years?



## 1986 COA CONVENTION WRAP- UP

by MARY ELLEN AKERS

COA Secretary

1244 Edenville Ave.

Clearwater, Florida 33546

"Whelkcome to the Busyconvention!" was Broward Shell Club's clever greeting at COA's 14th Convention, held at the Sheraton Yankee Trader Hotel in Fort Lauderdale, Florida. The gala annual event convened Tuesday through Saturday, July 15-19th, and attracted 250 registrants. International guests came from Martinique, France, Panama and Brazil. The formal scientific community was represented by Walter Sage, Dr. Donald Moore, Dr. E. C. Rios, Dr. R. Tucker Abbott and Dr. Clyde Roper, and doctoral candidates Darren Rumbold and Gary Rosenberg.

Friendly Broward Shell Club members personally greeted registrants Tuesday morning; the convention officially opened with greetings from Convention Chairperson Ruth Chesler, Broward Shell Club President Richard Sedlak, and COA President Anne Joffe. Les Easland began the programs with slides and reminiscences about last year's convention in Philadelphia. Mary Lou Pugh became the Erma Bombeck of the moment with her commentary on the vagaries of shell collecting. Bob Lipe delighted the audience with his "Marginal Look at Marginellus," a genus close to his heart. In "Bon Aire -- Then and Now," Bob Pace compared shelling at the tropic isle before and after hurricane damage to offshore reefs. Broward Shell Club members personally catered the Whelkcome Party at the International Swimming Hall of Fame. While sipping a refreshing punch and munching on fresh fruit and other delectable goodies, COA members were free to wander two floors of historic swimming memorabilia -- a mindboggling collection, including much Olympic material. Sightseeing tram service was provided to and from the Hall.

Wednesday was chock-full of activities. Bea Winner continued to enlighten us about the world of "Seashells and Their Egg Masses." She's studied more than 70 individual species over the years, and this year showed many Australian species as well as nudibranchs. Bea admits to being "taller than Dr. Ruth Westheimer!" Hank Foglino was back by popular demand, and with his fascinating graphics from Grumman, gave insight into "Ocean Tides -- Causes and Effects." Past COA President Dick Forbush (who made an earlier appearance wearing a T-shirt which stated in first-grade penmanship, "See Dick and Jane go to the beach!") relived his "Shelling in



Fig. 1 (top). Incoming and outgoing presidents, Richie Goldberg and Anne Joffe, at Fort Lauderdale Convention, July 1986. Fig. 2 (bottom). Convention Chairperson, Ruth Chesler presents one of many lucky raffle winners with his prize. All photos by Don Young.

Fig. 3. Conventioneers at the "Whelkcome Party" at the International Swimming Hall of Fame. Fig. 4. Dick and Jane Forbush at "breakfast on the beach". Fig. 5. COAers on the "Jungle Queen Cruise" up Fort Lauderdale's waterways.



Panama" adventures, including his elegant accommodations at the famous San Blas Hilton. He reminded us of the geographical surprises that one must go slightly southeast from Miami to Panama, and that the Canal is situated northwest to southeast. "Diving and Shelling in South Florida" was the topic of Wayne Harland, local authority and leader of COA field trips the following day. Mike Cahill expanded horizons with "Rare Caribbean Shells." Broward Shell Club awards grants, and was proud to have a recent recipient, Darren Rumbold, speak on the "Chemical Communication in Mollusks." Darren is a graduate student at Florida Atlantic University.

The Jungle Queen cruise up the intracoastal waterway and Fort Lauderdale canals topped off the day. It was fascinating to see the local homes and somehow be cajoled into saying, "Hello, there!" to every bridge-tender named Johnson and Schwartz, and to join in yawningly on a sing-a-long. Ashore at our destination, we gorged on bar-be-qued chicken and ribs and U-peel-'em shrimp (does Betty Lipe LOVE shrimp!). This was followed by a vaudeville revue of an accordionist, juggler, comic, and Sophie-Tucker-understudy singer.

Thursday was more loosely structured. One hundred seventy of us flocked to John Lloyd State Recreation Area for "Breakfast On the Beach," prepared by Broward Shell Club members -- a feast of egg salad, slivered ham, croissants, sweet rolls, delicious fresh fruit ad infinitum. Earlier, the Broward Shell Club had salted the beach with nearly 500 shells which had floated in from the seven seas. A shell hunt followed, with prizes for given numbered shells.

The day was free for resting, sightseeing, and shopping, while Wayne Harland and his wife led the official COA field trips to the Atlantic reefs just offshore from Pompano Beach. Seventeen scuba devotees ventured on two dives (the first to 65 feet), while 21 snorkelers explored 8-10 foot waters for four hours. Though conditions weren't what Wayne considers "ideal", the happy participants returned with numerous specimens, including a *Charonia variegata*, *Pecten mildredae*, and a variety of *Vexilla*.

The climax of the day was the annual COA Auction in the evening masterminded by Peggy Fox. Gary Magnotte served as auctioneer; bidding paddles were shaped like Broward Shell Club's emblem shell, the *Busycon contrarium* (no wonder this was a Busyconvention!). Shells abounded, but many other items went up for bid, including fabrics, books, copies of HSN, jewelry, antiques, a cross-stitch original, fossils, prints, china, and Carlos Leobrera's new book on Philippine shells. Many fine items went for very

Fig. 6. Conventioneers (fig. 6) scanning the Fort Lauderdale beach for shells and later (fig. 7) listening for their lucky numbers on those numbered shells and, back at the Sheraton Yankee Trader, listening (fig. 8) to one of several speakers in the lecture hall at.



reasonable prices, but the most exotic and best buys were *Cypraea friendii* (\$40), *Altivasum flindersi* (\$97), *Papuina pulcherrima* (green tree snail) (\$18); unnamed *Attiliosa* (\$50); a 350 mm *Charonia tritonis* (\$42), a 90 mm *Mitra helenae* (\$90), *Conus granulatus* (\$90), and a new *Conus* sp. (proposed name: *harlandi* -- sound familiar?)((\$80). In addition, the silent auction closed that evening, and proceeds from both auctions netted over \$3,000 for COA. The generous contributors of items for the auctions and door prizes which were awarded throughout the convention are listed after this article. Be sure to note these fine folks and businesses, who provided literally hundreds of items which made hundreds of conventioneers happy.

Friday was another Marathon Day. Richie Goldberg regaled us with his adventures in "Land Snails of Greece;" the critters are especially fond of limestone outcroppings and ancient monuments, so one can sightsee and snail hunt the various acropoleis and famed locales of Delphi, Rhodes, Mycenae, and Crete (but be discreet at the palace of King Minos at Knossos!). Ken and Wendy Keaton brought us back state-side with "Shelling on Money Key" near the Seven-Mile Bridge west of Marathon in the Florida Keys. "Shelling in Honduras" was the topic ably handled by Kevin Sunderland. Stan and Bobbie Phillips amazed all present with their program, "A Closer View," providing macrophotographic views of portions of urchins and shells -- up to 120 times magnification! Dr. E.C. Rios of Brazil gave an impromptu program on shells from his country; we all wanted to dissect the stomach of the nearest pacamon fish!

Mark your calendars now for COA '87 at St. Louis, Missouri, June 23-27. Alan Gettelman tempted all with a presentation on what his fascinating city has to offer.

The afternoon concluded with COA's business meeting. COA presently has over 687 memberships. Henceforth, the COA Roster will be printed once annually in the Bulletin and updated periodically. Updates were given regarding the grants given last year to the Long Island Shell Club for its soon-to-be-published monograph, and, through the Smithsonian, to Michael Russell, graduate student of University of California/Berkeley, who's studying the brooding behavior of certain bivalves. A "how-to" packet has been prepared reference putting on a COA convention. Because of increasing printing and postage costs, COA dues will increase slightly.

A caveat: Russ Jensen advised your officers about an individual who went around collecting logos from various lapidary organizations, copyrighted them himself, and went back to the groups demanding payment for their use, since



he then had legal rights to the logos. Check copyrighting procedures locally; it should not be very costly.

COA received five requests for grants this year and has now set up guidelines for eligibility in keeping with COA's goals. This year's awards go to the Smithsonian (\$1,000) and to Rudiger Bieler (\$500) for his monograph on *Architectonica*. Guidelines with some changes have been developed for awarding the COA Trophy, and will be printed and distributed before next season's numerous shell shows. New officers for 1986-87 were elected as follows: President - Richard Goldberg, Vice President - Donald J. Young, Treasurer - Walter Sage, Secretary - Mary Ellen Akers. Anne Joffe presented a COA plaque to Dick Forbush in appreciation for his two years as COA president (1983-84, 1984-85), and for his continuing support and efforts on behalf of COA. Others felt the award was presented because Dick Forbush did not tell a joke this year! The last item on the agenda was the long-awaited "Anne's Drawing." Anne and Don Dan had contributed a *Voluta bednalli* and a *Conus dusaveli*, and donations for chances were made by attendees throughout the week. Both winners were women, from Texas and Naples, Florida, respectively.

During the convention, COA Representatives from various shell clubs gave brief reports on their individual clubs and doings. The Club Representatives Program was an innovation this year and was coordinated by Richie Goldberg; 29 clubs around the states now have a COA Representative. Reports were presented by the following clubs: National Capital, Chicago, Crown Point, the two-member Crete Conchs from Nebraska, Astronaut Trail, Treasure Coast, Greater Miami, Houston Conchological Society, Sanibel-Captiva, Long Island, Southwest Florida, St. Petersburg, Sarasota, Atlanta, Central Florida, Suncoast Conchologists, and Indianapolis. It was interesting to learn which club was the first to provide grants for study (National Capital), which is publishing a monograph on its local mollusks (Long Island), which had members who established the parameters for a Girl Scout merit badge for shell knowledge (Vi Hertweck and Lee Armington of Sarasota), and which is having a one-time special award for Sailor's Valentines since its show falls on Valentine's Day in 1987 (St. Petersburg).

Betty Hamann challenged conventioners with a page of Armchair Shelling. Can you, for example, find the shell and genus in: "First editions by French novelist Camus sell for thousands of francs." Or: "In Peru near Cuzco live llamas, vicunas and alpacas can be seen." Many

Fig. 9. As always, the dealers' bourses were exceedingly popular, as was the (fig. 10) highly successful auction. Fig. 11 (bottom). One of the last events was the "no host" cocktail party just prior to the banquet.





members tore out their periostracums while hunting the pageful of deviously hidden treasures!

Souvenirs? COA had colored T-shirts and totebags with the COA emblem for sale, and they went like hotcakes! But the biggest "souvenir heaven" of course, were the anxiously anticipated Dealers' Bourses, held Friday night and all day Saturday. Over 32 dealers filled 66 tables with the most tempting array of books, sculpture, jewelry, artwork, cabinets, stamps, fossils, and shells, shells, SHELLS, to suit every taste and pocketbook. Be sure to note the list of Dealers' Bourse participants following this article. These people really add to the excitement of every convention. You should be aware of their support of COA.

Before the grand finale banquet Saturday night, incoming President Richie Goldberg met with many of his officers and board to plan the year ahead. Very often we who attend conventions are not aware of the day-to-day workings of the organization. A brief recounting of the following appointed officers and chairmen may interest you and acquaint you with some of the lesser known but vitally important activities of COA: Anne Joffe, Twila Bratcher and Alan Gettleman are COA Directors; Finance - Al Chadwick; Show Trophy - Don Dan; Grant Award - Dick Forbush; Editor/COA Bulletin - Charlie Glass; Managing Editor/COA Bulletin - Robert A. Foster; Membership - Bernie and Phyl Pipher; Publications - R. Tucker Abbott, PhD; Publicity - Hank Foglino; Legal Advisor - Martin Lerner; Convention - Alan Gettelman. Parliamentarian, Historian, and other chairmen will be appointed shortly. And did you know that the COA Constitution and By Laws are in the midst of revision?

Figs. 12-15. ...and finally the banquet!



And work continues in reference to our incorporation status as a scientific organization, so we may qualify as a charitable organization, with tax deductions allowed for contributions. Obviously, the officers and committees work diligently all year, and welcome your input. If you have thoughts or questions on any of the facets of COA, check the inside front cover of this Bulletin for addresses, and contact an appropriate person. Officers and chairmen will be delighted to hear from you. "Make our day!"



The last official fling was the banquet. Two hundred thirty contented shellers mingled throughout a happy hour and settled down at exquisitely decorated tables. Broward Shell Club members provided magnificent *Busycon contrarium* centerpieces, filled with artfully constructed shellcraft flowers. The hours that Carolyn Harrison and her committee must have put into these creations illustrate the dedication of the Broward Shell Club to make the convention a memorable one. Personal party favors of little busycons with mint-filled apertures, delightful shellcraft crabs or crickets, and charming bespectacled turtles added to the merriment. Archie Jones topped it off with a gift of a *Liguus fasciatus* tree snail, with data, for each diner; these are very precious with today's severe harvesting restrictions. And the vittles were delicious: rib eye steak and complimentary wine climaxed the celebration.

After dinner, Josy Wiener narrated Broward Shell Club's Sheller's Fashion Show, with outrageously garbed members representing the Night Sheller (with lamp), the Beginner (with vacuum), the Sanibel Stoop, the Advanced Sheller (with



bug spray, sun oil, shovel, sunglasses, camera), the Sophisticated Sheller (with cocktail), the Snorkeler, the Scientific Sheller (with books, calipers, ruler, magnifying glass), and the Fossiler (with T-P)! In conclusion, Josy reminded us that the Broward Shell Club would always be willing to give the shirt off its back, and proceeded to strip off three T-shirts and her slacks, which were given as doorprizes, thus revealing Josy looking cute in a two-piece bathing suit, the epitome of the Good Natured Sheller.

Anne Joffe commented as to how much our late Kirk Anders, one of COA's founding members and past president, would have enjoyed such camaraderie. Officially, and for all of us, Anne thanked Ruth Chesler, Convention Chairman, and all members of the Broward Shell Club, for a truly memorable and wonderful convention. Ruth in turn expressed her thanks to all whose efforts had contributed to COA '86. And in appreciation to Dr. Clyde Roper, who had been in attendance all week, she presented him with a clock plaque. Incoming President Richie Goldberg then had the honor of presenting Anne Joffe with a COA award in appreciation for her outstanding service to our organization.

Guest speaker, Dr. Clyde Roper of the Smithsonian Institution/National Museum of Natural History first thanked COA for its financial award. Dr. Roper had received his master's and doctorate at nearby University of Miami, and specializes in the study of cephalopods. His presentation for the evening was "The Myths, Mysteries and Truths About the Giant Squid." He traced the history of the beast from references to a kraken in a sixteenth century Norse document through succeeding years, presenting a convincing argument that legendary sea-monsters probably were giant squid (which can reach 60 feet in length and weigh 2,000 pounds). A mere 30-foot specimen found on the rocky coast of New England presently rests mellowly in "a 130-gallon martini" at the Smithsonian.

So that is COA '86! Plaudits are due Ruth Chesler, Convention Chairman, who graciously reminded us that "A convention is not put on by just one person." She and the friendly and dedicated members of the Broward Shell Club toiled for many months to prepare the festivities for our pleasure, and to add the personal touches that continue the tradition of warm-hearted, interesting, and fun COA Conventions. We really felt Welkcome at the truly Busyconvention!

Alan Gettelman and the St. Louis Shell Club have their work cut out for them, but they already are well on their way to COA '87 and promise stimulating programs mingled with the special hospitality of the city that's the Gateway to the West. What fun it will be to meet our midwestern friends under the Arch in St. Louis. See you there!



**AUCTION AND DOOR PRIZE CONTRIBUTORS**

A special thank you to the COA members, shell dealers and friends who so generously responded to our requests for contributions for our auctions and door prizes. We urge our members to patronize these dealers and to thank them and the individuals the next time you see them!

Benjane Arts - Lynn Rubinowitz  
 Yvonne Bequet  
 Pete Bright - Shells of the Sea  
 Broward Shell Club  
 Morris and Ruth Brush  
 Mike Cahill  
 Mary Carlson  
 Ruth Chesler  
 Marilyn Cox  
 Kay Davis  
 Al and Bev Deynzer - Showcase Shells  
 Glen Duffy - Specimen Shells  
 Peggy Fox  
 Marty Gill - Shamaron Shells  
 Richard Goldberg - Worldwide Specimen Shells  
 Jack and Myrna Golden - Golden Philatelists  
 Greater Miami Shell Club  
 Ruth Greenberg - Tidepool Galleries  
 Betty Hamann  
 Wayne Harland - Ragamuffin Dive Charters  
 Carolyn Harrison  
 Edgar C. Haviland - The Green Lion's Paw  
 Bonnie Holiman  
 Anne Joffe  
 Archie Jones - Specimen Shells  
 Alta Van Landingham - Shell Shop  
 Fred and Irene Leonard - Specimen Shells  
 Pierre and Zola Loizeaux  
 Lorna Lombardo  
 Mique's Mollusks  
 Gertrude H. Moller  
 Fac Muller  
 W. H. Paddeson  
 Mary Palmer  
 Walter Sage - American Museum of Natural History  
 Richard Sedlak  
 Marie Southern  
 Roy Stevens - Shell Sculpture Originals  
 Sue Stevens  
 Kevin Sunderland - Specimen Shells  
 Iva S. Thompson  
 George W. Weitlauf  
 Ben and Josy Wiener  
 Tom Shepherd - Specimen Shells  
 Norma Merrill  
 Gloria Scarboro  
 Virginia Lee  
 John Root  
 Fran Thorpe

Gwen Wilkins - Specimen Shells  
 Glen and Marion Deuel  
 Len Hill - Specimen Shells  
 Susan Burns  
 Stanley and Bobbie Phillips  
 Sue Hobbs - Whale's Tale  
 Dr. E.C. Rios  
 Carlos Leobrera

**DEALERS' BOURSE PARTICIPANTS**

Our thanks, too, to these fine dealers who participated in our Bourses Friday night and all day Saturday. You will recognize many familiar names; these dealers have always been supportive of COA and its activities -- we hope you will support them, too, and remember to mention COA when you do!

Frank and Ruth Abramson - Sea and Earth Treasures  
 Rosemary Adams Specimen Shells  
 John Bernard - Shelloak  
 Jeff Brandyberry Specimen Shells  
 Pete Bright - Shells of the Sea  
 Bonnie Christofel - The Shell Connection  
 Phil Clover Specimen Shells  
 Donald Dan Specimen Shells  
 Al and Bev Deynzer - Showcase Shells  
 Glen Duffy - Specimen Shells  
 Mathilde Duffy - Artist  
 Dennis Dworak - Cabinets and Cases  
 Marty Gill - Shamaron Shells  
 Richard Goldberg - Worldwide Specimen Shells  
 Jack and Myrna Golden - Golden Philatelists  
 Len Hill - Specimen Shells  
 Sue Hobbs - Whale's Tale  
 Tom Honker - Specimen Shells  
 Archie Jones - Specimen Shells  
 George Karleskint, Jr. - World Wide Sea Shells  
 Alta Van Landingham - The Shell Shop  
 Fred and Irene Leonard - Specimen Shells  
 Bob Lipe - The Shell Store  
 Mary Palmer - Fossils  
 C.F. and Mique Pinkerton - Mique's Mollusks  
 Lynn Rubinowitz - Benjane Arts  
 Tom Shepherd - Specimen Shells  
 Roy Stevens - Shell Sculpture Originals  
 Kevin Sunderland - Specimen Shells  
 Gwen Wilkins - Specimen Shells  
 Patrice Bou - Specimen Shells  
 Patrice Marquis - Specimen Shells

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## HELPFUL HINTS FOR COLLECTORS

by Minicyp

### Your Dealer

Let's talk about your dealer or dealers. Or perhaps you don't have a dealer and are looking for one. We will talk about that also. For many of us our dealer is an important part of our shell collecting.

The shell dealer is a major factor in our hobby. Without the dealers there would be very few collections that covered more than a restricted local area. The dealer makes the market in shells. They are the link between the professional collector and the hobbyist. Most great collections have been built with the help of one or more dealers.

For the purposes of this discussion let's call a dealer someone who makes their living or at least a substantial portion of their living selling shells. It does not include the myraid of "vest pocket" dealers (a term stolen from the stamp collectors) who may support their hobby with selling shells now and again.

To start with full time dealers are trying to make a living selling shells. To do this they must satisfy the vast majority of their customers. They must make a fair profit yet price their shells competitively. They must deal with all their customers fairly and honestly. Their service must be prompt and courteous. It is reasonable to expect all of this from your dealer. With rare exceptions shell dealers meet these criteria. Dealers generally don't like to lose their customers. However, I suspect there are a few customers that dealers wish they could lose.

Remember your dealer is human just like you are. Dealers will and do make mistakes. They have their off days like everyone else.

In turn the customer, you, have a few obligations to your dealer. Your order must be clear. Your payment should be prompt and conform to the dealer's terms. Return should be expeditious and carefully packed. Courtesy suggests that you explain the reason for returns. This will help both you and the dealer. Knowing why you rejected a shell will help him serve you better the next time you order from him.

If the dealers are all great, except for an occasional slip and the customers observe a few simple rules what is the problem? First off, the problem is that the specimen shell business is different from most other businesses. No two shells, even two of the same species, are alike. This, coupled with the desire of most shell collectors to have a complete collection, probably

are the cause of most of the dealer-customer unhappiness.

The differences between shells of the same species has lead to the erection of multitudenous sub species, forms, varieties, races, etc. Some of these are valid but many are not. A new subspecies, form, race, variety or what have you appears in the literature. What happens? The collector, striving for a complete collection, wants one. The dealer, knowing his customers will want this new whatever, stocks the shell. The collector buys some. Some customers are perfectly content to accept the identification on the data slip and add the shell to their collection. This happens even though, to all intents and purposes, the shell is identical to one already in his collection. Another collector takes one look at the shell. Recognizes the shell as a common variation of a well established species. Packs the shell up and returns it to the dealer. He is usually a bit irritated with the whole deal.

The knowledgable and ethical dealer finds himself on the horns of a dilemma. He recognizes the new whatever as the common variation that it is. However if he doesn't stock it he may lose the type one collector. Stocking it he may lose the type two customers who feel that the dealer should know better. Perhaps a cautionary note in the dealers price list would be an appropriate first step in helping to solve the problem. Of course, the real solution to this problem is to somehow stem the proliferation of new classifications for all the minor variations that nature creates.

Some dealers can be quite careless or ignorant of the proper identification of subspecies, races, varieties, etc. I have seen geographical races described as coming upwards of 10,000 miles from where the races were originally described... possible but very improbable. The same can be said about subspecies, forms and varieties. This carelessness can work two ways. From time to time one can pick up a rare subspecies or even species that has been misidentified. More frequently it is a source of annoyance for both the customer and the dealer.

Another facet of the shell business, particularly the mail order segment, is the problem of how to describe a shell. The HMS International Shell Grading Standards were a great step forward. However there are still problems. What is a gem shell? The Standard says in part a gem shell is: "A perfect specimen with an unblemished spire, unbroken spines and a lip without chips, fully adult and normally colored-a shell without a visible flaw." Application of this standard is, at least to some degree, subjective.



For example, I know of two collections covering the same genus and containing essentially the same species. The vast majority of shells in both collections would be classified, without question, as gems. The owners have about the same amount of money invested in their collections. Yet the two collections elicit very different reactions from those who view them. One is spectacular and the other lackluster. The difference is very hard to define. In the spectacular collection the colors are a bit more dense, the patterns a bit more eye-pleasing, the shells somewhat better proportioned. There is a difference yet the shells are all "gems". What is a gem shell in one person's eye may not be a gem in someone else's eye.

The dealer is confronted with the problem of trying to convey a subjective, visual image to a wide variety of customers. Each customer has a different set of aesthetic values. Many dealers attempt to supplement the simple rating of gem, fine, etc. with a verbal description. This frequently confounds the problem. What do some of the following really mean?

"The best I have ever seen."

"They don't come any better than this."

"Gem except for a dorsal growth flaw" ...or a broken tip or what have you.

"Fine, slightly repaired but excellent otherwise."

"Fine ++ Super specimens"

"Fresh dead"

Measurements are frequently given as so many millimeters and up. Up to where? The terms "giant" and "dwarf" are thrown around with little real regard as to where the specimen at hand fits in the size range of the species.

The terms "rare" and "uncommon" are frequently found in price lists or in a dealer's description. It is a bit difficult to understand how a really rare shell can sell for under \$5.00.

Shells are frequently described as "fine to fine plus" or "fine plus to gem minus" or "gem to gem minus". Is the customer taking pot luck? What should the customer really expect?

The problem of description is one that can never be fully solved. Determining how well a dealer's description matches your requirements can only be established through experience. One of the merits of dealing with one or two dealers exclusively is that you and your dealer or dealers get to know each other. The two of you establish a subset of grading standards that are mutually acceptable.

A number of dealers solicit want lists. There seems to be a lack of clear understanding between the dealers and the collectors as to the meaning of a want list. To some dealers a want

list is a customer order for the items on the list that he can fill from current stock. For other dealers it is a request for the dealer to secure the shells, if possible, for the customer. For still other dealers a want list is their way of determining if they are interested in the customer's business! If the customer is looking for high ticket items, great; if not, the circular file. Finally there is the dealer who uses want lists to fill the time when other orders aren't coming in regularly.

With want lists the customers are far from faultless when it comes to want lists. There is the customer who uses the want list for comparative price shopping. Another type uses want lists to select shells on approval. Then there is the collector who never updates his want list. After a dealer breaks his neck to get the shell and sends it to the collector he gets back a, "so sorry I now have that shell". Some collectors consider want lists as "wish lists".

The net results of these various definitions is confusion confounded. Perhaps the collector could consider their want list as an expression of an intent to buy from the dealer when (and if) the desired shells become available. This, of course, assumes that the quality of the shells are up to the collector's requirements. At the same time, the dealer should respond to the want list. The dealer should indicate what action he will take regarding the want list. Most importantly he will not leave the customer wondering what happens next. The customer has an obligation to date his want list and update it as appropriate.

Another possible point of friction between dealer and customers is the dealer who is a collector. The customer can rest assured that the shells the dealer is selling are second best when they are the species the dealer collects. It is particularly annoying to know that a dealer has received a shell that you particularly want and to know he will not offer it for sale, but put it into his own collection. This problem can become even more severe when the dealer enters a show in competition with his customers. It is only fair that dealer-collectors express their position up front.

Then there is the collector who becomes a dealer. He is selling his collection. He has been on a collecting trip and wants to sell the surplus. He has acquired a collection and wants to dispose of the duplicates. Here the golden rule comes into play. If you are in this situation and you have a regular dealer it is only fair that you offer the material to him first. You should give the dealer the same treatment you expect as a customer.

If you receive shells that are properly des-

cribed and choose to return them it is only fair that you pay the postage both ways. This is also true when you order shells on approval.

How do you pick a dealer? The same way porcupines make love. Carefully! Talk to fellow club members (one of the merits of belonging to a club) or collectors. Secure price lists of various dealers and examine them. Write to various dealers telling them what you collect and what you are looking for. Not an order, but an inquiry. See what sort of response you get to the inquiries. Select dealers that advertise in the Bulletin or the Hawaiian Shell News. Place a series of relatively small orders.

One of the greatest bits of poor advice on selecting a dealer is to place one small order. If a dealer blows that first order from a customer something is very, very wrong. The first order from any customer should receive and probably will receive first class treatment. It is the second, third and fourth orders that count.

If you have a problem with a dealer you have little recourse except for writing or telephoning the dealer. There is no dealer association, better business bureau or the like. Under Federal law you do have certain rights as a mail order customer which you should know. Some states have consumer advocates who sometimes can help. The U.S. Postal Service has a fraud unit. However, most of the governmental agencies can be of help only in the case of fraud or law violations. Generally the problems between dealers and their customers are misunderstandings or differences in opinion. In dealing with a problem with a dealer it is well to assume at the outset that the problem stems from a misunderstanding and not dishonesty. Politeness and courtesy are the order of the day.

All of the foregoing is not intended to imply that there are no dishonest or unethical dealers. There are. They are few and far between and generally they don't stay in business too long. Again finding a dealer and sticking with him will pay off.

It can be real fun developing a collection with the help of a dealer. Most dealers are ready to help you to build your collection. They are in business to serve you. Treat your dealer in that light.

Richard H. Jones  
1432 Dorsh Rd., S. Euclid, OH 44121

#### How to Start a Shell Collection Without much Effort

The day of the COA Convention's breakfast on the beach was another great beginning of another day with the *avant garde* setting everything up and with 2 members "salting" the beach



Fig. 1. Maria Markis from New York gets a free conchological lesson. (Photo by Don Young).

with shells for a "shell treasure hunt". (For the uninitiated, it's like an Easter Bunny egg hunt but with numbered shells instead of colored eggs. The numbers relate to numbers in a raffle for prizes.) Not far behind the "salters", however, walks a tourist from New York picking up everything and marveling that the day before not a single shell was in sight but "today shelling is great!". What's more, when her collecting was noticed, she was not about to give up her finds to two suspicious characters who claimed that they were planting the shells there on the beach.

Ben Wiener came to the salters rescue and patiently explained that over 250 conventioning conchologists from all over the U.S.A. were coming to have breakfast on the beach and were then to have a shell hunt and find these particular shells for prizes. Perhaps the clincher was pointing out the tabs with numbers printed on them on each shell... Once the situation was grasped, our collector not only put the shells back; she appointed herself guardian of the 100 yards of salted beach, chasing other inadvertant, prospective collectors away.

When I (Ben's wife) arrived and was told about the incident, I asked to meet the lady. We invited her to join us for breakfast. Our "guardian angel", Maria Markis from New York, became the center of attention and when the numbered shells were all exchanged for prizes, she was given the shells she had first collected and then protected and would up with a good and sizeable starter collection. I bet she will never forget her vacation and encounter with the Conchologists of America!

Josy Wiener, Miami Shores, Florida

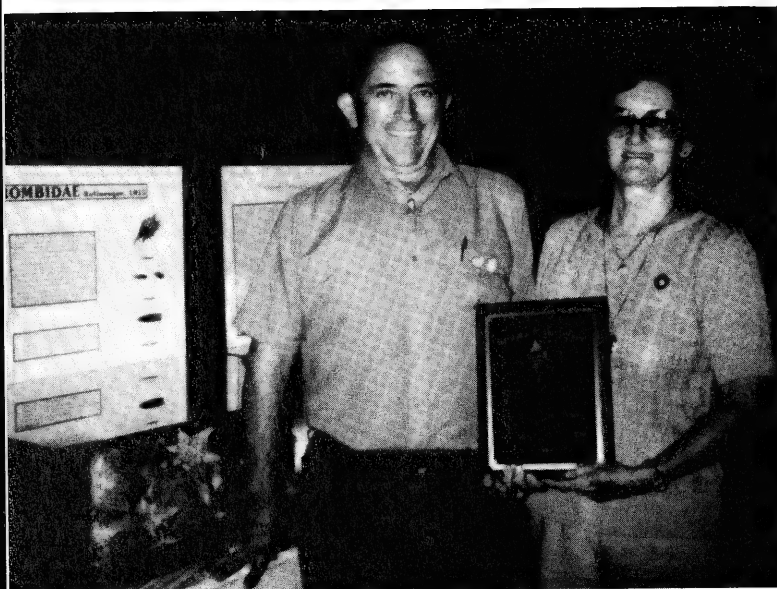


Fig. 1. John & Barbara Vaughn with their C.O.A. Grand Trophy winning Strombidae display at the Sarasota Shell Show.



Fig. 2. Nancy W. Gilfillan receiving the C.O.A. Grand Trophy from judge Walter Sage at the Georgia Shell Show.

## C.O.A. GRAND TROPHY WINNERS

Sarasota Shell Show, Sarasota, Florida, Feb. 21-23, 1986

WINNERS: John & Barbara Vaughn

TITLE OF DISPLAY: The Strombidae Family

Fifteen cases (46 lin. ft.) displaying the complete Strombidae family. Posters with educational material showing structural comparisons of species, development and ecology, life cycle of some species and photos of Strombidae showing living animals of many species were positioned behind the cases.

John's and Barbara's interests in shells began in the mid-70s with visits to South Carolina beaches. They were charter members of the Low Country Shell Club in Charleston, South Carolina. Upon retirement in 1981, they moved to Fort Myers and joined the S.W. Florida Conchologist Society. Both John and Barbara are active in the club. John was chairman of their 19th Annual Shell Show this past January. They were awarded the DuPont Trophy on their Strombidae exhibit at the Naples Show the week preceding Sarasota.

Georgia Shell Show, Atlanta, Georgia, April 11-13, 1986

WINNER: Nancy W. Gilfillan

TITLE OF DISPLAY: Opercula of the Superfamily Trochacea

The display showed how, with diagrams, operculums (or *opercula*) are made by the mollusks and how they grow their shells. Pictures of

live shells with their operculums were included as well as information on habitats, feeding habits and descriptions of each shell's operculum, comprising a 34ft display.

Nancy started collecting in 1974 and first exhibited in a shell show at Wilmington, N.C. in November, 1984. She is a member of most of the shell clubs in the eastern United States. She is interested in all shell families but does not collect any herself. Her exhibit has won both the C.O.A. Grand Trophy and the DuPont. Nancy attends the shows in the eastern United States, taking her exhibits along to share with others. She also does craft work with shells and enters that division of the shows.

1986 Metropolitan Seashell Show, Greater St. Louis Shell Club, St. Louis, MO, April 18-20, 1986

WINNER: Thad & Marian Brzana

TITLE OF DISPLAY: "The Incomparable Conchs" - Family, Strombidae

An extensive, beautiful and exciting 55 foot display containing 20 cases of Strombidae featuring the genera of the family, *Strombus*, *Lam-bis* and *Tibia*. The display included freaks, fossils, albinos, cut and carved shells, pictures, maps, xrays, models and drawings.

At the Crown Point Shell Show, "The Spell of the Shell", the same exhibit won the DuPont, the Display Technique Award and the Exhibitor's Choice Award.

Thad and Marian, of Evergreen Park, Illinois, have belonged to the Crown Point Shell



Fig. 3. Thad and Marian Brzana with the St. Louis Shell Show's COA Grand Trophy.

Collectors' Study Group, Inc. for 11 years now. Among Marian's special loves, aside from shells, are needlework and flowers. Thad's diversified hobbies include woodworking and he also made the display cases that housed the exhibit.

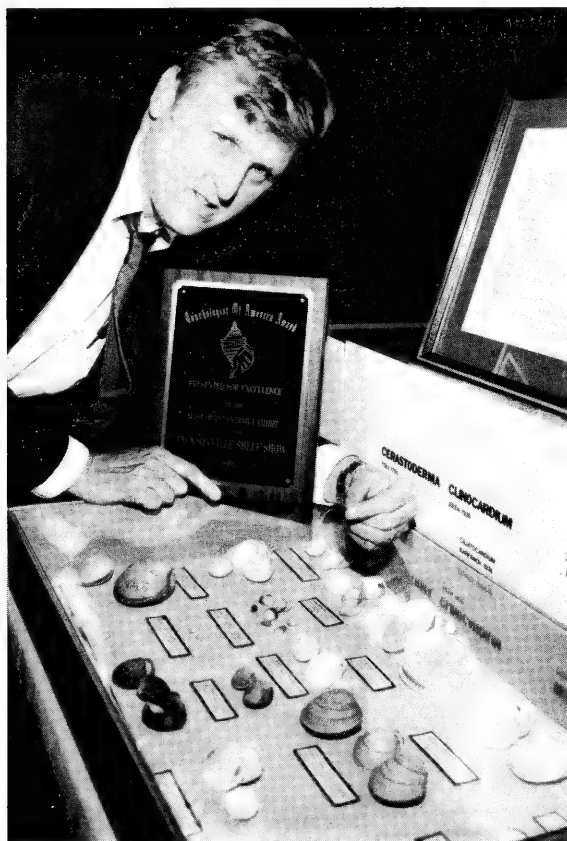


Fig. 4. Dr. Lee and his COA Grand Trophy by his award winning display, "A Systematic Survey of Recent & Fossil Cardiidae" at the Jacksonville Shell Show.

Jacksonville Shell Show, Jacksonville Beach, Florida, Aug. 1-3.

Winner: Harry G. Lee, M.D.

Title: A Systematic Survey of Recent & Fossil Cardiidae

The display offered a representative array of about 150 species of cockles from all five sub-families arranged in systematic fashion.

The exhibitor, Dr. Lee, has been a collector for many years. He feels that more exhibitors should tackle phylogenetic groups and other topics off-the-beaten track: "too many ready-made cowry, cone, volutes, *Murex* (s.l.), scallop exhibits and not enough attention paid to the 'wallflowers'." he explains.

## SHELL SHOW CALENDAR

January, 1987:

THE ASTRONAUT TRAIL SHELL SHOW, Jan. 23-25, 1987

At the Melbourne Auditorium, 625 E. Hibiscus Ave., Melbourne, FL, Friday from 10-9, Sat. & Sun. 10-5; admission \$1.50, 12 & under 50c; also programs, lectures, daily special events, hourly door prizes, raffle items, and, on Sunday, 1-3, a shell auction. For additional information contact show chairpeople, Bobbi and Jim Cordy, 385 Needle Blvd., Merritt Island, FL 32952.

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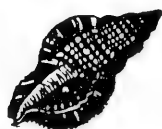
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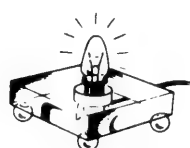
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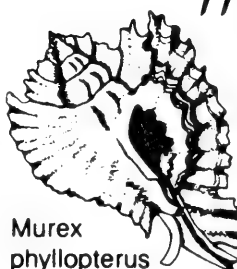
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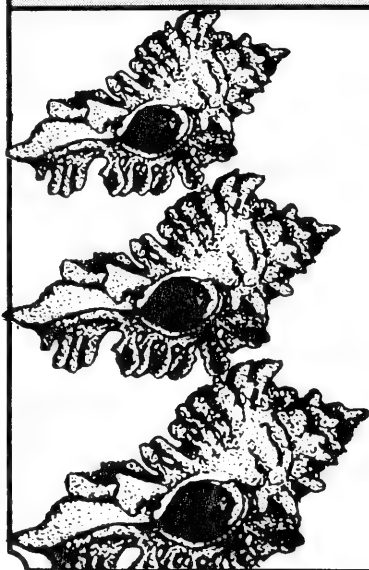
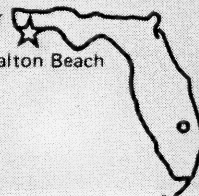
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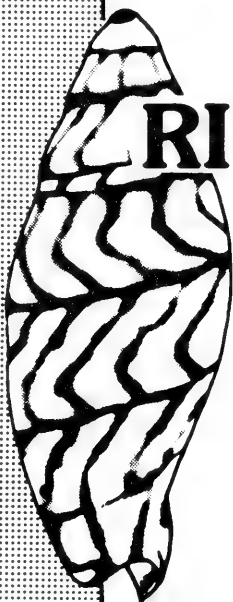
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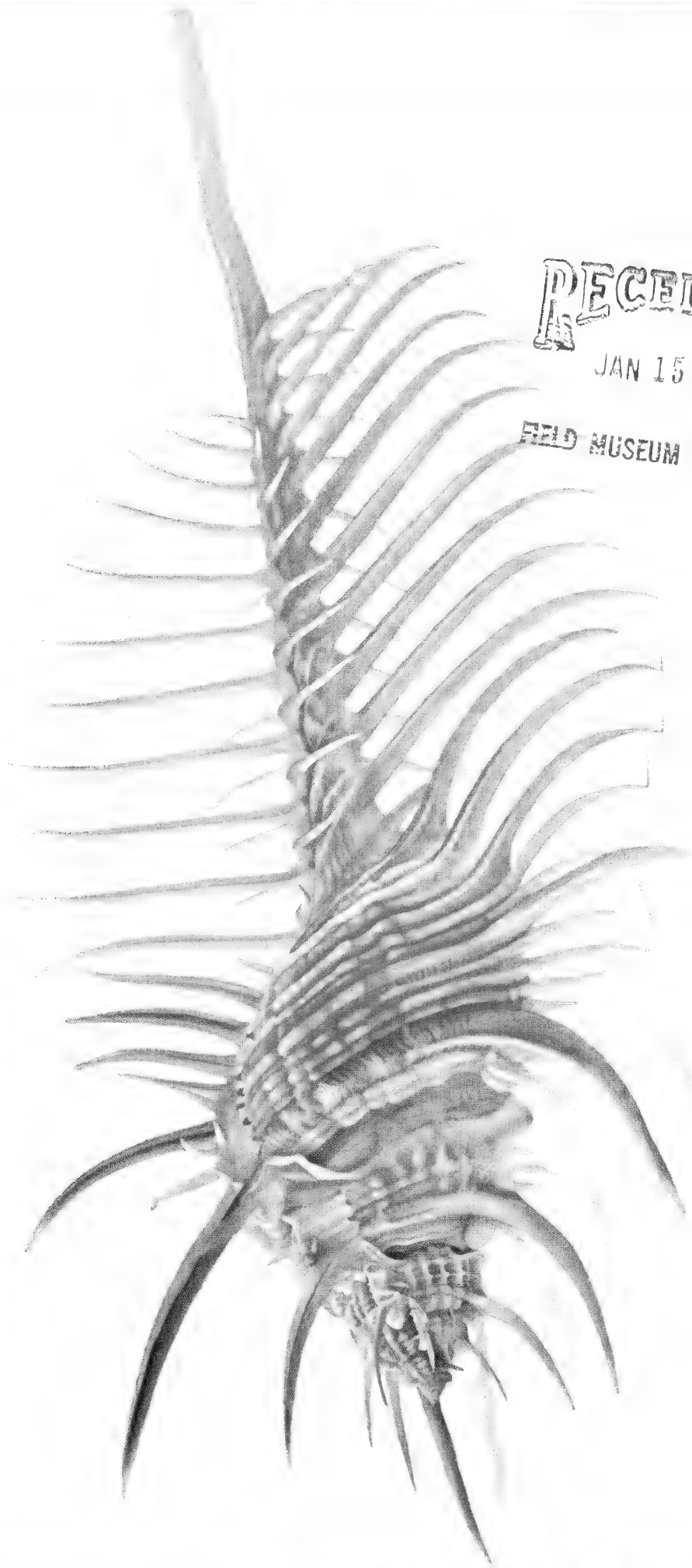
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DECEMBER, 1986

VOL. 14, NO. 4





*In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.*

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**COVER PLATE:** We are pleased to introduce our readers to the art of California illustrator, Royce D. Wood, with this watercolor rendering of a *Murex pecten* in the Foster/Glass collection.

### EDITORIAL

As we've said on the few occasions we've used this column, we intend to make rare use of it . . . well, in this case final use of it for us, for we have, with enormous regret, resigned as editor and managing editor of this bulletin. Our reasons are various but high among them is acceptance of the fact that we have failed in one of our main goals in originally accepting the positions, namely to inspire an increase in the circulation of the bulletin, at least to a minimal readership of 1,000. We had hoped to do this within a year. Well we have been editors for over four years and membership in the organization is still under 800 which is, in our opinion embarrassingly low. As commercial dealers we have to state that our commercial shell lists have a wider circulation. And that brings us to another reason for our decision: to put more time and energy into the production of those illustrated, hopefully monthly lists, and including therein the sort of material for the amateur we have been writing for the COA Bulletin.

We have loved working with the COA Bulletin, and feel it has been time well spent if even some readers have enjoyed our contributions.

### PRESIDENT'S MESSAGE

Looking back at my 10 years as a member of the C.O.A., I reflect on all of the great conventions attended; and the wonderful people I have had the opportunity to meet. It was a privilege and honor to then be elected President of the organization that provided me with such memorable and fun times, and helped me further my knowledge and interest in shell collecting during my formative years in the hobby. The chance for us to help further interest in conchology through the C.O.A., I think, is paramount to keeping shell collecting a viable and growing hobby.

Much has been written over the last year or two relative to dwindling numbers of collectors participating at shell clubs around the country. After discussion of this topic with some long time collectors, the consensus is that interest in hobbies such as shell collecting do tend to wax and wane. There are probably as many theories as to why participation and interest dies as there are collectors. I think we should concentrate on how to develop and further interest in the hobby of shell collecting. Shell shows have always been the major source for new members at local clubs around the country. It gives a community a chance to be exposed to a hobby that many might not even knew existed! Those who develop an interest need to be nurtured and encouraged to find a niche for themselves—whether it be in field collecting and developing a scientific collection, becoming an arm chair collector, or even shell craft. No one should be discouraged in whatever area they decide to pursue. The most important resource for continuing this hobby over the long run is our young collectors. I attended my first shell club meeting at 16 years old, and was greeted with enthusiasm and encouragement. It was this openness and friendliness which kept me a devoted collector over the years. C.O.A.'s slogan, "*A Collective Devotion to Advancing Conchology*" probably sums up this whole topic. Let's make each and every new-comer into shell collecting a welcome member of our unique and fascinating hobby!

Looking forward to the year ahead for C.O.A.—the constitution is in the process of being revised, and the new draft will be voted on at the next convention in June. C.O.A. Shell Show Trophy continues to be a popular award at shows across the country, and the new rules for the awarding of the trophy have been sent to all participating shell clubs. For the third year in a row, C.O.A. plans to give Grant Awards "*to persons or organizations for projects that will help further the interests of conchology and/or malacology and are in keeping with the*

(continued on page 73)

## CLARIFICATION OF MURICIDEA CALEDONICA JOUSSEAUME, 1881 =(*Attiliosa caledonica*)

By ANTHONY D'ATTILIO and BARBARA W. MYERS

Department of Marine Invertebrates

San Diego Natural History Museum, P.O.Box 1390, San Diego, CA 92112

*Muricidea caledonica* Jousseaume, 1881: 349 was very briefly described, but not illustrated in *Le Naturaliste*. A year later Jousseaume (1882: 345-347) published a lengthy description, but again he provided no figures. The following year Poirier (1883: pl. 5, fig. 3) first illustrated the species (fig. 1).

The species was considered by Jousseaume (1882: 347) as belonging exclusively to the New Caledonian fauna. Poirier (1883: 111), however, stated it was not only to be found in New Caledonia as Jousseaume believed, but was represented in the Paris Museum collection by three other specimens, one of which came from New Caledonia (M. Marie) and the other two from the island of Fidji (*sic*) (M. Filhol).

Since 1883 the species has received little or no attention in the literature apparently because of the very few specimens known and further, the lack of adequate illustrations for the purpose of specific identification. Recently we received live collected specimens (fig. 2) of what we believed to be *M. caledonica* from Enwetak and Kwajalein in the Marshall Islands, extending the known distribution from New Caledonia and Fiji north almost 2000 miles.

Inasmuch as Poirier's figure was small and showed little detail, and later figures in both Fair (1976) and Vokes and D'Attilio (1982) showed few details, we borrowed the syntypic lot of *M. caledonica* from the Museum National d'Histoire Naturelle Paris. The lot contained six specimens separated into two lots, both labelled "types" and "problement types." (fig. 3) The first lot contained three specimens measuring (a) 29.8mm x 19.3mm; (b) 29.3mm x 20mm; and (c) 26.2mm x 19.0mm. (fig. 4) The second lot also contained three specimens measuring (d) 23.5mm x 16.5mm; (e) 23.0mm x 15.8mm; and (f) 13.4mm x 9.0mm. (fig. 5). Jousseaume described the species as 25 to 30mm. It seems apparent that Jousseaume would have mentioned the smaller specimens if he had had them. Poirier, one year later as stated above, referred to three specimens that not only came from New Caledonia, but also from Fiji. There is no reason to believe then that the three specimens in the second lot were part of the lot studied by Jousseaume. It can be assumed that these specimens were added to the type lot at a later time, but fortunately kept separate.

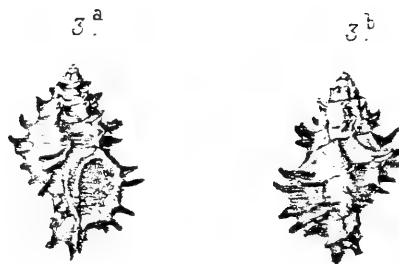


Fig. 1. *Muricidea caledonica*. Taken from Poirier (1883).

The subsequent selection of a lectotype of *M. caledonica* is somewhat equivocal. Fair (1976: pl. 17, fig. 229) figured *M. caledonica* with the label "MHNP Type x 1 1/2". Fair's figure measured 35mm which would make the specimen approximately 22mm. A specimen 23.0mm x 15.8mm [specimen (e)] from the doubtful "syntypic" lot appears to match the figure by Fair which shows the left side of the siphonal canal with two triangular breaks along the edge. Specimen (e) has identical breaks on the left edge of the siphonal canal. Art. 74(a) (v) states that if it is demonstrated that the designated lectotype is not a syntype, it loses its status of lectotype. [ICZN].

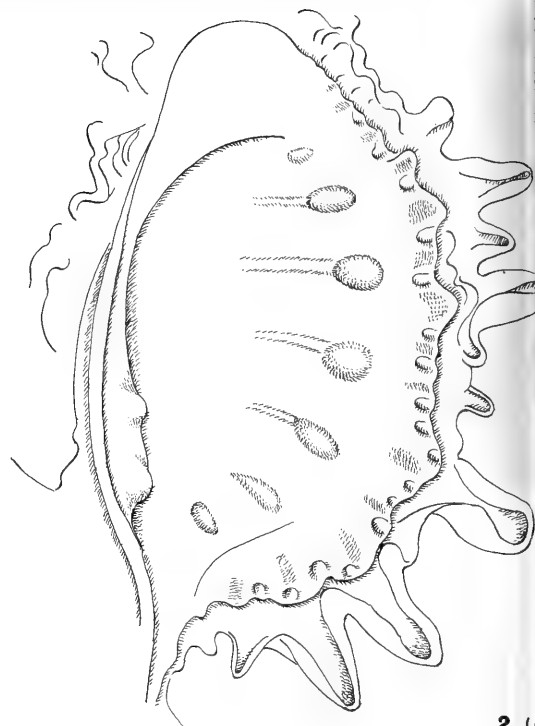
Vokes and D'Attilio's figure 5 (1982) labelled "Lectotype (here designated)" is the same photograph and specimen as illustrated in Fair, from the doubtful "syntypic" lot. However, on page 70 of this same paper under the synonymy of *Attiliosa nodulifera* (Sowerby, 1841) appears the following citation: "*Murex (Muricidea) caledonica* (Jousseaume). POIRIER, 1883, Nouv. Arch. Mus. Hist. Nat. Paris, (Ser. 2) 5:110; plt. 5, fig. 3 (lectotype)". This Poirier figure can be matched to specimen (c), one of the specimens in Jousseaume's syntypic lot (Lot 1), the only specimen with brown tinted spines. Art. 74(c) states that designation of an illustration of a syntype as a lectotype is to be treated as designation of the specimen illustrated. Therefore, this would seem to be a valid designation of a lectotype [fig. 4(c)]. This lectotype, therefore, is specimen (c) from Lot 1 and the two other specimens in Lot 1 are here designated as paralectotypes. We are not considering the three specimens in Lot 2 as paralectotypes.



2 (a)



2 (b)



2 (c)

Fig. 2. Camera lucida drawings of *Attiliosa caledonica*. SDNHM 87067. 30.2 mm. Kwajalein, Marshall Islands. (a) dorsal; (b) ventral; (c) aperture.

**MURICIDEA CALEDONICA**  
SYNTYPES  
Jousseaume, 1879

localité: Nlle Calédonie, Ile  
Fidji

dét.:  
observ.: Ravue et Magasin de  
Zoologie, 1879, 3<sup>e</sup> série, 7: 345

Muséum Nat. Hist. Nat. Paris  
INVERTÉBRÉS MARINS  
ET MALACOLOGIE

*Muricidea caledonica* Jousseaume  
Étude Purpuridae. 1879.  
probablement type.

No. le Dr. F. Jousseaume 1920. TYPES  
Poirier p. 110

*Murix caledonicus*  
Revision des types  
Fischer 1943

*Muricidea caledonica* Jousseaume  
Étude Purpuridae. 1879. - probablement  
types.

*Muricidea caledonica* Jousseaume  
Étude Purpuridae. 1879. - probablement  
types.

No. le Dr. F. Jousseaume 1920  
Poirier p. 110 TYPES

*Murix caledonicus*  
Revision des types  
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Fig. 3. Labels accompanying syntypes of *Muricidea caledonica*: left: (a) MNHN Paris label; center (b): four labels included with Lot 1; right: (c) four labels included with Lot 2.

Because the lectotype is in such poor condition relative to the two paralectotypes, our description of the species is based on the syntypic material, as well as the non-syntypic material and also on the live collected specimens from Kwajalein and Enewetak in the Marshall Islands.

**DESCRIPTION:** Species is broadly biconic with a moderately high spire, a moderately large aperture and a relatively short canal. A preserved protoconch on specimen (f) of the non-syntypic lot from the Paris Museum has one and three quarters polished convex whorls (fig. 6). There are six to seven weakly convex postnuclear whorls and the suture is wavy and weakly impressed. The aperture is ovate, inner lip erect except posteriorly, outer lip strongly crenulate with seven to eight denticles becoming lirate within the aperture. In addition, there are two to three elongate denticles at the anterior end of the columella. The canal is moderately short, narrow, recurved and open and the fasciole is ornamented with three to four strong projecting

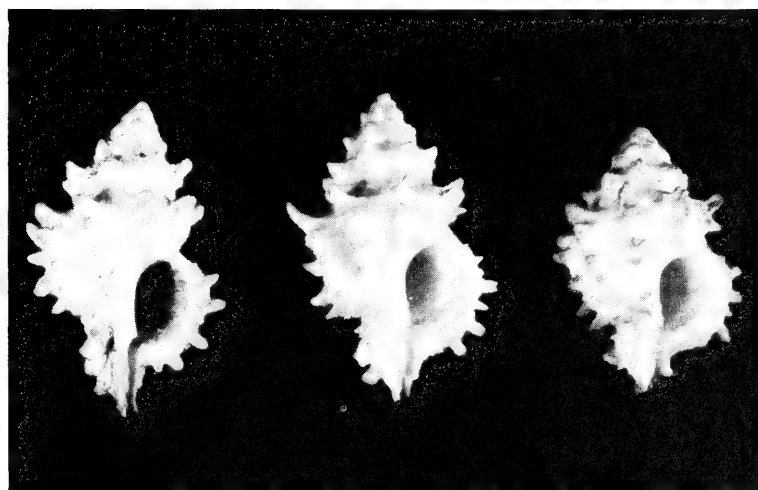
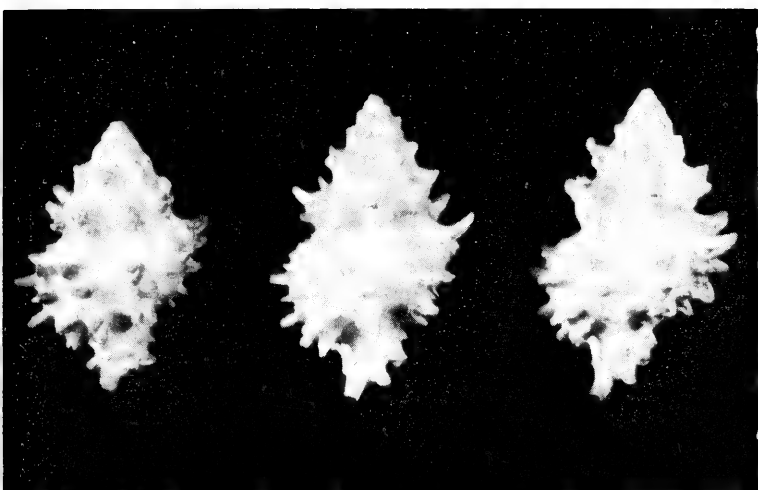


Fig. 4. *Muricidea caledonica*. MNHN Paris syntypic lot. (Lot 1) dorsal and ventral views. dorsal views: left: 26.2mm x 19.0mm; center: 29.3 mm x 20mm; right: 29.8mm x 19.3mm; ventral views (same specimens, reverse order): left: (a) 29.8mm; center: (b) 29.3mm; right: (c) 26.2mm.

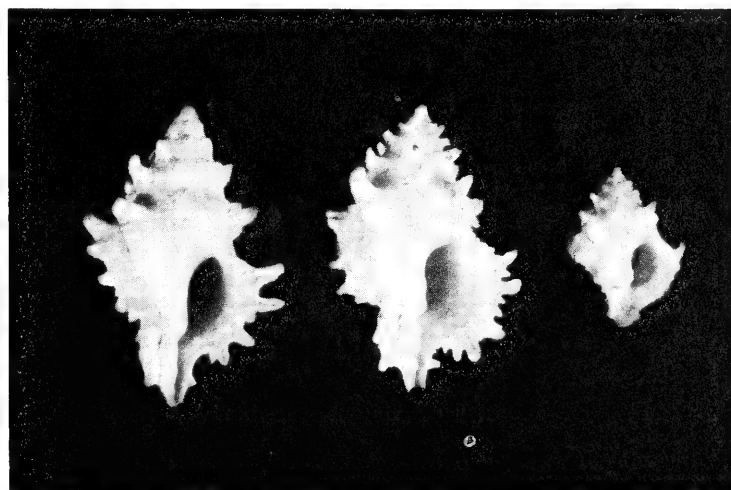
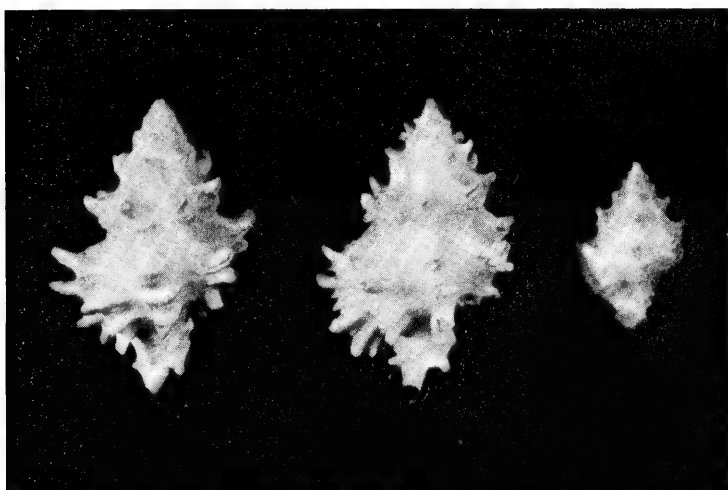
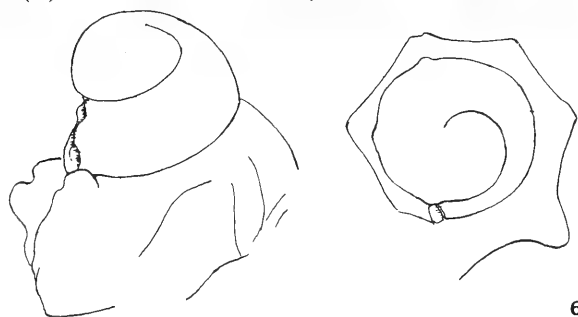


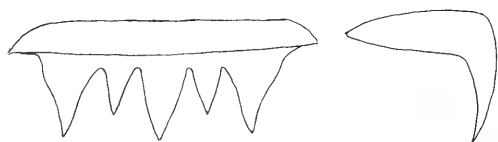
Fig. 5. *Muricidea caledonica*. MNHN Paris Non-syntypic lot. (Lot 2) dorsal and ventral views: left: (d) 23.5mm x 16.5mm; center: (e) 23.0mm x 15.8mm; right: (f), 13.4mm x 9.0mm.



6

Fig. 6. Camera lucida drawing of protoconch of *Attiliosa caledonica* Specimen F. from MNHN Paris. Greatly enlarged.

Fig. 7. Drawing of radula of *A. caledonica*. SDNHM 87067. Greatly enlarged.



7

terminal portions of previous canals. There are six to eight varices on the body whorl. The varical margin is somewhat erect, strongly undulate, crossing the shoulder sharply diagonally to the suture. The intervarical areas are broader than the width of the varices, spiral cords are obsolete. The varices are composed of short open spines on the leading edge; four to five major spines and four to five intercallary minor spines; three to four less prominent spines are on the shoulder, and a weak minor spine occurs on the canal.

Color of the shell is creamy white to pale flesh and in some specimens a light rust color many suffuse the whole body whorl. The spines are white with one to two spots of rust color on small nodes on the receding side of the spine and rust color occurs under the varical margin on each of the varices other than the apertural varix. In some specimens there is an additional rust colored band at the base of the body whorl.



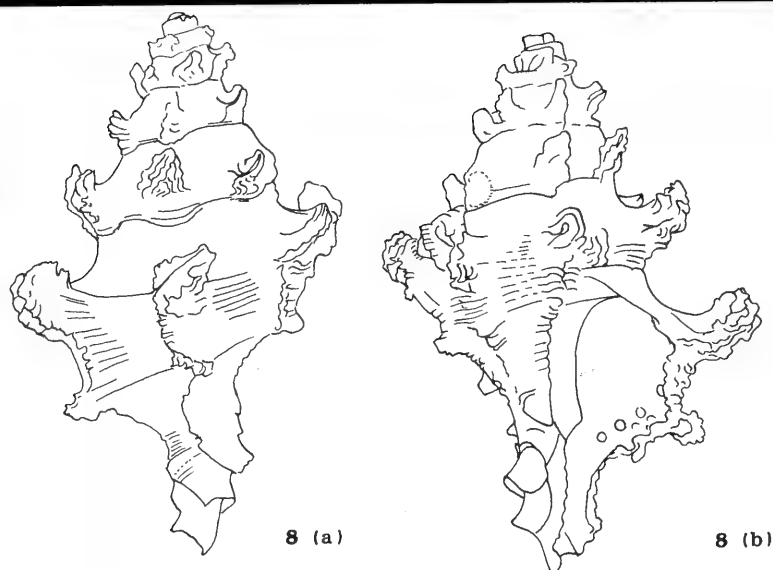


Fig. 8. Camera lucida drawings of *Attiliosa nodulifera*. SDNHM 65378. 20.7mm x 14.6mm. (a) dorsal; (b) ventral.

In the lectotype, a worn specimen, the terminal portions of the spines are brown. The apertural coloration ranges from white to pale yellow.

A study of the radula from a specimen taken at Kwajalein Island, Marshall Island, (fig. 7) necessitated the placement of the species in *Attiliosa* Emerson 1968. The operculum is typically muricoid, nucleus somewhat below the center.

Radwin and D'Attilio (1976:59) and Vokes and D'Attilio (1982:70) placed *A. caledonica* in the synonymy of *A. nodulifera* (Sowerby, 1841) (fig. 8). In comparing *A. caledonica* with *A. nodulifera*, we found strong differences in both shape and sculpture. *A. caledonica* has a broad, robust, biconic shell while *A. nodulifera* is relatively narrowly fusiform with angulately tabulate whorls. The overall spiny surface of *A. caledonica* also distinguishes it from *A. nodulifera*. The spines of *A. nodulifera* are stronger, broader and ramose (fig. 9). *A. caledonica* has simple short spines (fig. 10).

#### ACKNOWLEDGEMENTS:

We wish to thank Charles Glass and Robert Foster for the opportunity to examine specimens of *Attiliosa caledonica* and *A. nodulifera*, and for donating to the San Diego Natural History Museum specimens of both species. We wish to express our appreciation to Jeanette Hammon for providing us with material from specimens collected by her in Kwajalein for our radular studies. We are grateful to Dr. Philippe Bouchet of the Museum Nat. D'Histoire Naturelle, Paris, for the loan of syntypic material of *A. caledonica*. Photographs of the syntypes were taken by Charles Glass. We thank Dr. William K. Emerson for his careful study and review of our manuscript and for his comments and suggestions regarding the type of *A. caledonica*. We thank Mrs. Theo Fusby for typing the manuscript.

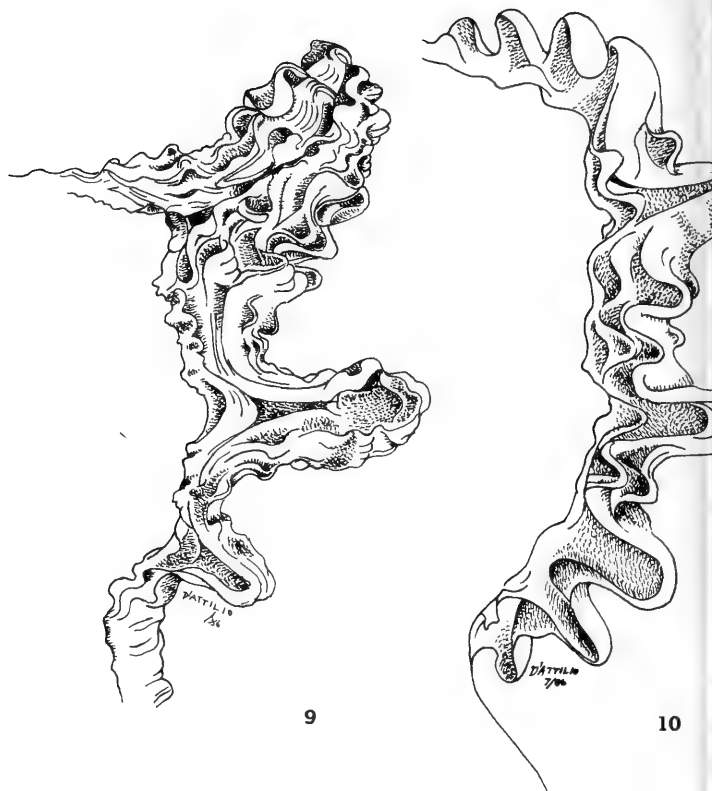


Fig. 9. Camera lucida drawing of apertural spines of *A. nodulifera*. -SDNHM 81696 from Bohol Island, Philippine Islands. 27.0mm x 19.3mm. Fig. 10 (right). Camera lucida drawing of apertural spines of *A. caledonica*. 29.3mm x 19.6mm from Enewetak Atoll, Marshall Islands. Collection of C. Glass and R. Foster.

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## CALIFORNIA SEASHELLS PART XIV

by C.GLASS & R.FOSTER

We conclude this series with some California representatives of important groups that should not be ignored. The first of these is the only California member of the Conidae:

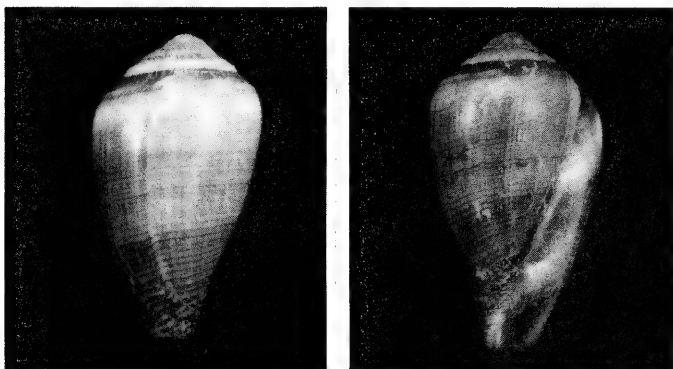


Fig. 1a & 1b. *Conus californicus*, dorsal and ventral views (with operculum).

*Conus californicus* Hinds, 1844

McLean's description of our only California cone species as "rather drab" borders on understatement. The shell is greyish tan and up to 25 to 40mm in length or a bit over an inch. Occasionally small specimens show a slight trace of some pattern. The brown periostracum is relatively thick. The shell pictured here (AbS 81-476) is 33mm long. The operculum is about 9mm long, or rather large for the size of the species for *Conus*. It was collected by Glass in about 80 feet on Canby Reef out of the Santa Barbara Harbor, but is a ubiquitous species which can be found in virtually every explorable ocean habitat, on rocks, sand, kelp, wherever! The range is given as from the Farallon Islands off San Francisco to Magdalena Bay, Baja California.



Fig. 2. 3 specimens of *Olivella biplicata* from near Nifty Rock, San Miguel Island, California.

*Olivella biplicata* (Sowerby, 1825)

The only "olive" genus represented in California is *Olivella* with two species, the one pic-

tured and the smaller, more slender *O. baetica* Carpenter, 1864. *Olivella* differs mainly from the "true" olives by the presence of an operculum, small, cellophanous and yellowish amber. The shell is generally light grey to bluish or brownish grey and 20 to 27mm in length. They are, of course, sand dwellers, and we have found them by the hundreds in shallow water off San Miguel and Santa Cruz Islands and elsewhere. Their range is given as Vancouver Island, British Columbia, Canada to Magdalena Bay, Baja California, Mexico

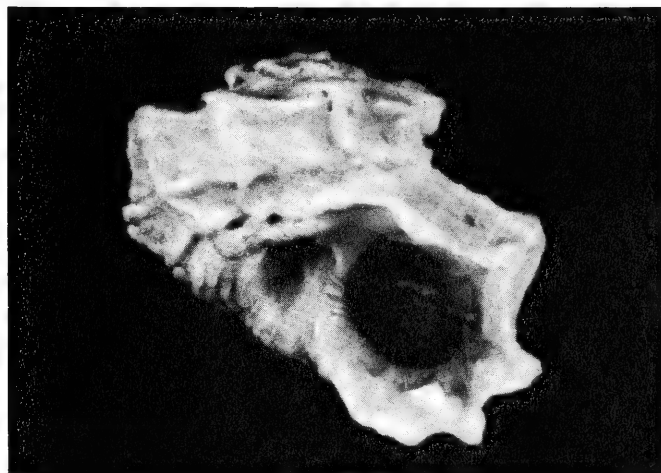


Fig. 3. *Macrarena cookeana*, side and top views of a live taken specimen from "Potato Rock" near Chinese Harbor, Santa Cruz Island leg. C.Glass, July 27, 1986. Note unusual fringed operculum.

*Macrarena cookeana* (Dall, 1918)

The figured shell is the only live specimen of this species which the submersible author was fortunate to find. Indeed, it is the only species of the genus which occurs within diveable depth. This specimen was found in 70 feet (the apparent upward limit of its range, just east of Chinese Harbor, Santa Cruz Island. This is a slight extension of its range as is given in McLean as from Anacapa Island, California, to Asuncion Island, central Baja California. The specimen is 22.5mm high and 27mm in widest diameter. It is an attractively sculptured whitish



Fig. 4 (left). *Forreria belcheri*, a 107mm specimen (nearly 4 1/4") with operculum in the authors' collection (AbS 79-1053) trawled off southern California. Fig. 5. (center and right). Dorsal and apertural views of *F. belcheri*, L. A. County Museum of Nat. Hist., #77540, a 3 3/8" specimen taken in 72 feet off Newport, Orange County, California.

shell with spiral cords, a deep umbilicus and a most unusual "tufted", fringed operculum.

Abbott lists most spp. of *Macrarena* under *Arene* and this particular taxon as *Cyclostrema cookeana*, in the family *Cyclostrematidae* with the family *Liotidae* listed as synonymous. McLean maintains the family *Liotidae* which includes the genus *Macrarena*. According to McLean *Macrarena coronadensis*, 1959 is a synonym of *M. cookeana*.

#### ***Forreria belcheri* (Hinds, 1844)**

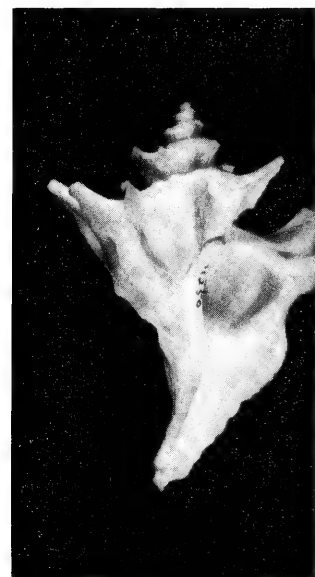
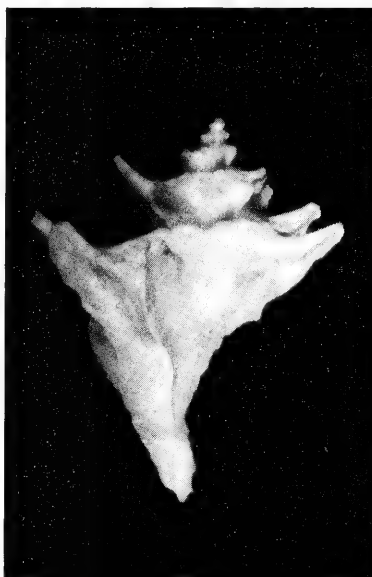
This largest of California muricids is somewhat enigmatic. It fluctuates between moderately common and exceedingly rare! There were reports of its occurring in fair numbers at Zuma Beach and our of the Santa Barbara Harbor in about 40 feet on silty sand some years ago, then for many years no one sees a trace of the shells, then again the turn up! Perhaps it is a case of periodic migration from deeper water, but frankly we do not know and can only guess.

The shells have 9 to 10 large spines at the shoulder corresponding to each varical growth stoppage. The shell is heavy and a rich tan to brown and 9 to 14cm long. Range is given from Mugu Lagoon south of Oxnard to Scammons Lagoon, Baja California, but we have received fairly reliable reports of its occurrence at Santa Barbara, a bit further northwest.

#### ***Trophon catalinensis* (Oldroyd, 1927)**

Abbott describes this taxon as being "moderately common offshore". We suppose all taxa are "moderately common" somewhere, if

Fig. 6. *Trophon catalinensis*, LACMNH 11250, dorsal and apertural views of an exceptionally large, 3 3/8" specimen from off Newport Beach, California in the L. A. County Museum.



they are to find mates and reproduce, but wherever *Trophon (cerrosensis) catalinensis* abounds is a well-kept secret and as far as most conchologists are concerned it is one of the rarer and certainly most expensive of California mollusks! Most specimens are from about 500 feet deep and we are not aware of specimens having occurred at shallower depths and collected by divers. We have, however, seen crabbed specimens of this taxon at Canby Reef and assume the hermit crab tenants have migrated upwards

with the shell from considerably greater depths. It was named for Catalina Island and its range is generally southern California. The shell is reminiscent of *Forreria belcheri*, though generally smaller and somewhat more delicate. Both are muricids. The shell pictured is 3 3/8" long and was trawled in 1961 in 500 feet off Newport Beach, California. It is in the L. A. County Natural History Museum (#11250).

And finally, we will end with a novelty which occurs very commonly at that favorite hunting grounds of ours, Canby Reef, out of Santa Barbara Harbor in 65 to 85 feet, and elsewhere in California and western Mexico. It is an incrustation, namely the ectoproct, *Diaperoecia californica*, and the fun, for us, is trying to guess which species of mollusk is under all this most unusual growth. The *Diaperoecia*-covered shells may be live or more commonly crabbed! Our name for them is "Sea-Whatsits".

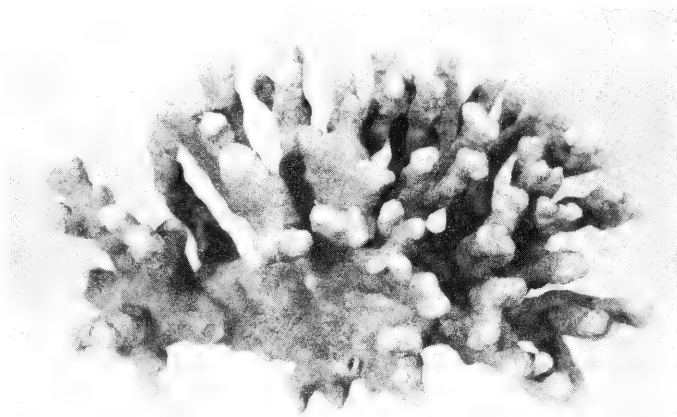


Fig. 7. A muricid shell covered with the finger like encrustation of *Diaperoecia* collected on Canby Reef, Santa Barbara, California.

#### REFERENCES:

- Abbott, R. Tucker, 1974, American Seashells, 2nd ed., Van Nostrand Reinhold, New York.  
McLean, James H., 1969, Marine Shells of Southern California, Los Angeles County Museum of Natural History, CA.

#### NEW EDITOR

Lynn Scheu, 1222 Holsworth Lane, Louisville, KY 40222, is your new editor of the C.O.A. Bulletin. All manuscripts, notices for publication, press releases, C.O.A. Grand Trophy reports, etc., should be sent directly to her.

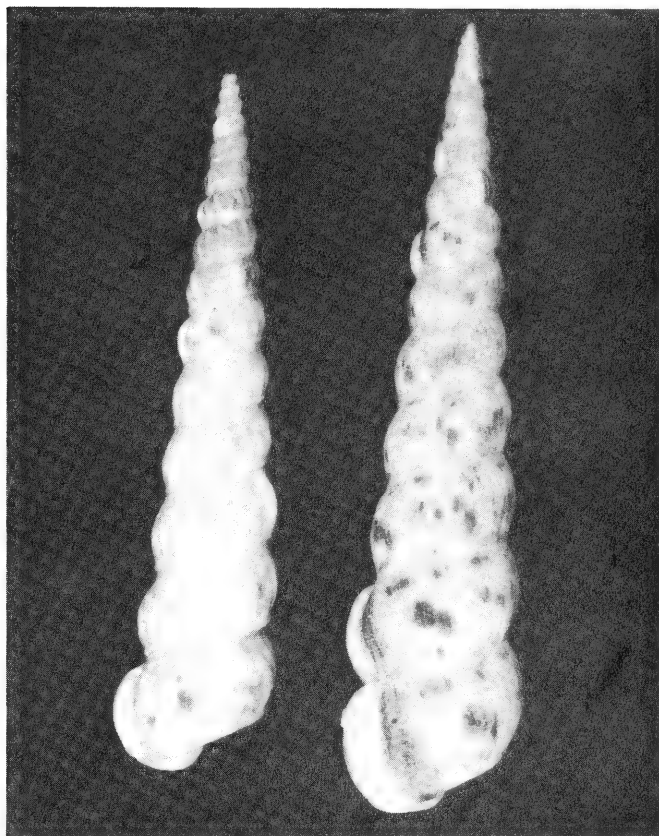
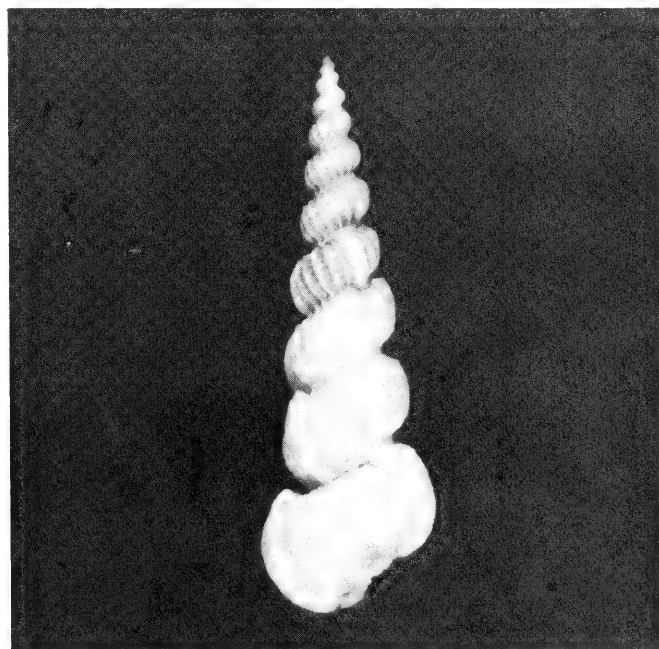


Fig. 1. 2 specimens of an unknown *Epitonium* from Balicasag, left: 51.2mm, right: 58.1mm

#### MYSTERY SHELLS

Do any of you epitonium experts out there recognize these deep water specimens from the Philippines? Any guesses? If so, please contact the editors, box 3010, Santa Barbara, CA 93130.

Fig. 2. Another unknown (to us) species of *Epitonium* from Balicasag Island off Panglao, Bohol.





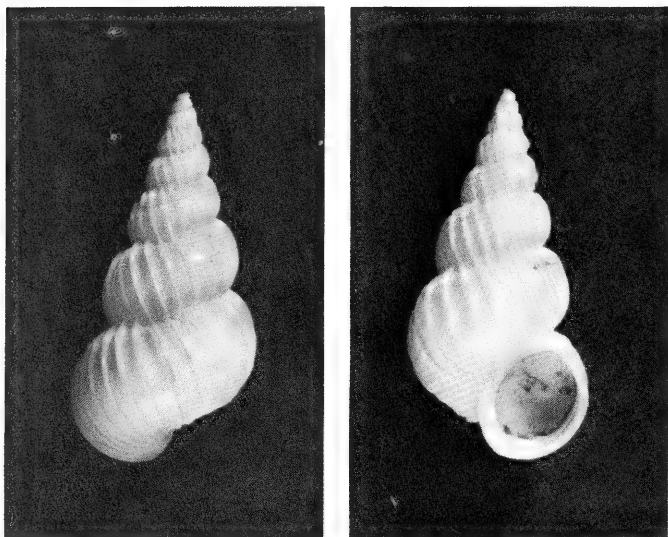


Fig. 1 (a & b). *Epitonium principalis* Pallas, 1774, leg. R.H.Jones, Turtle Key, Bahamas.

## LOST AND FOUND Atlantic 'Precious Wentletrap'

by NORMAN D. PASCHALL

2695 Frances Dr., Deland, FL 32724

Ten years ago I received a parcel of specimen Epitoniidae, for study and investigation, from a fellow collector residing in Ohio. A beautiful, live-taken specimen, with its operculum in place, was first to catch one's eye. One knew at once that this one was special. The collector's data stated, "live-collected by R.H.Jones, next to a sea anemone at the south end of Green Turtle Key, Bahamas, one hundred yards offshore, 6-18" below low tide line on a sandy bottom in turtle grass" (see fig. 1).

Immediately I turned to Tryon's *Manual of Conchology*. It was there but the line drawing on plate 12, fig. 58 was a bit confusing, however, the "Tortola, West Indies" was right on track. Could this be the long lost *Scalaria principalis* Pallas, 1774? We carefully checked the identification factors: narrowly umbilicated, thick, white, irregularly spirally striated; whorls 8-10, well-rounded, scarcely in contact with rather numerous, low lamellae; length 1.75 inches.

Let's check the *Conchologia Iconica* (plate III, fig. 12): "shell white, elongated, imperforated, whorls rounded, numerous, contiguous, varices rather regular, laminated, a little dilated at the suture, irregularly joined".

Our specimen is narrowly umbilicated, thick, white, irregularly spirally striated; whorls 8 with lost nuclear whorls; varices 22, well-rounded and low, laminated at the suture. The angle of the spire is  $36^{\circ}$  and overall measurements are 26mm x 12.5mm, or just under 1.8 inches in length.

Then came the Winter, 1982 issue of *Of Sea & Shore* with a fine photo of another specimen collected south of Balmoral Is., Bahamas, by Ms. Linda Huber. It was found in 4 feet of water among the debris of an octopus lair. This specimen pretty well matches up with the Jones's specimen. The angle of the spire is  $32^{\circ}$ ; whorls are 10 plus 3 nuclear whorls intact. There are 17 varices, laminated and not fused at the suture. The overall measurements are 40mm X 24mm. It seems we have recorded two recent specimens of *Epitonium principalis* (Pallas, 1774)!

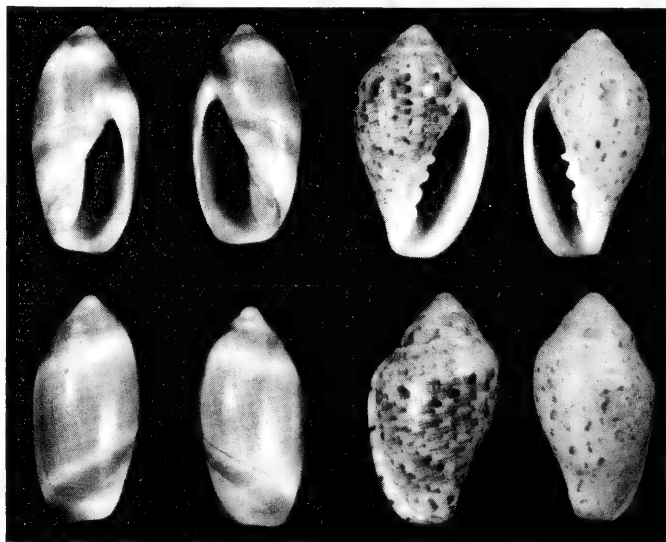
Further research indicates that this beautiful *Epitonium* has been much maligned and misplaced for many years, evidently because no actual specimens have been available. In my numerous trips to the major museums I have yet to record the presence of any specimen. These two specimens, however, indicate that the species is about. I have been lucky enough to have been permitted to examine these rare beauties. Of course, if anyone reading this should happen to have what they think is another specimen of this species, I would greatly appreciate the opportunity to view and measure it for my research records.

## WONKY CONCHS

### Mirror Images

It is strange how something just looks wrong about a sinistral specimen of most species of mollusk! Yet, as most conchologists realize, look at them in a mirror and they look perfectly normal. These are not, of course, the mirror images, but examples of the normal shells next to the "south paw" representatives of these South African species.

Fig. 1 (left). *Ancilla albozonata* E. A. Smith, 1904, sinistral specimen 18.5mm; normal specimen 18mm. Fig. 2 (right). *Marginella piperita* Hinds, 1844, the "lutea" form, the sinistral specimen 22mm, the normal specimen 22.1mm.



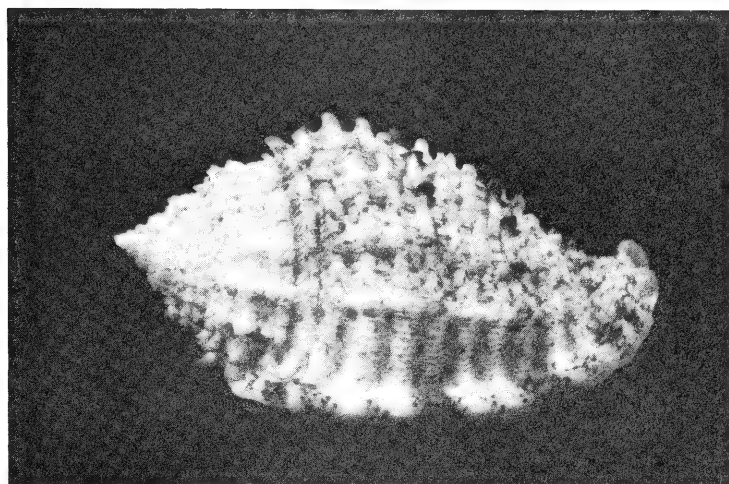
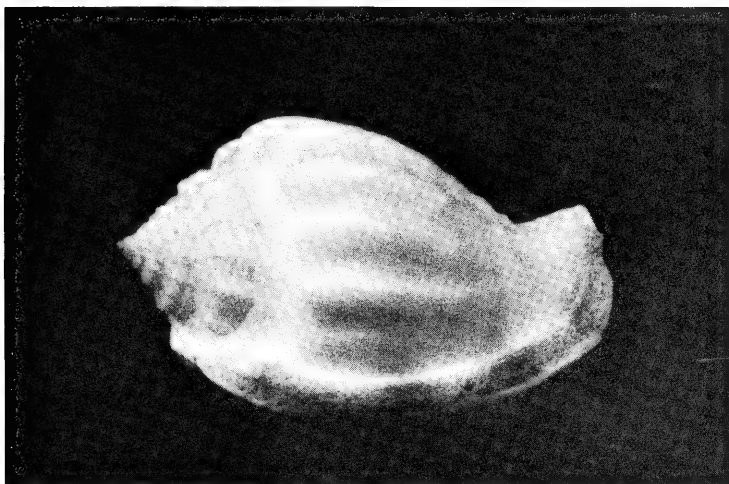
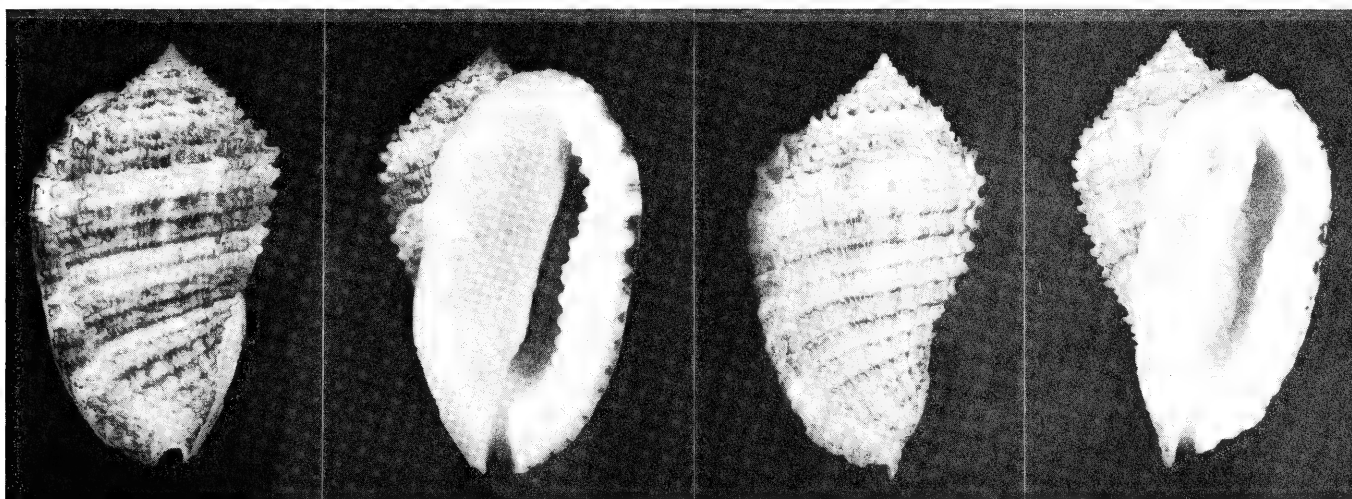


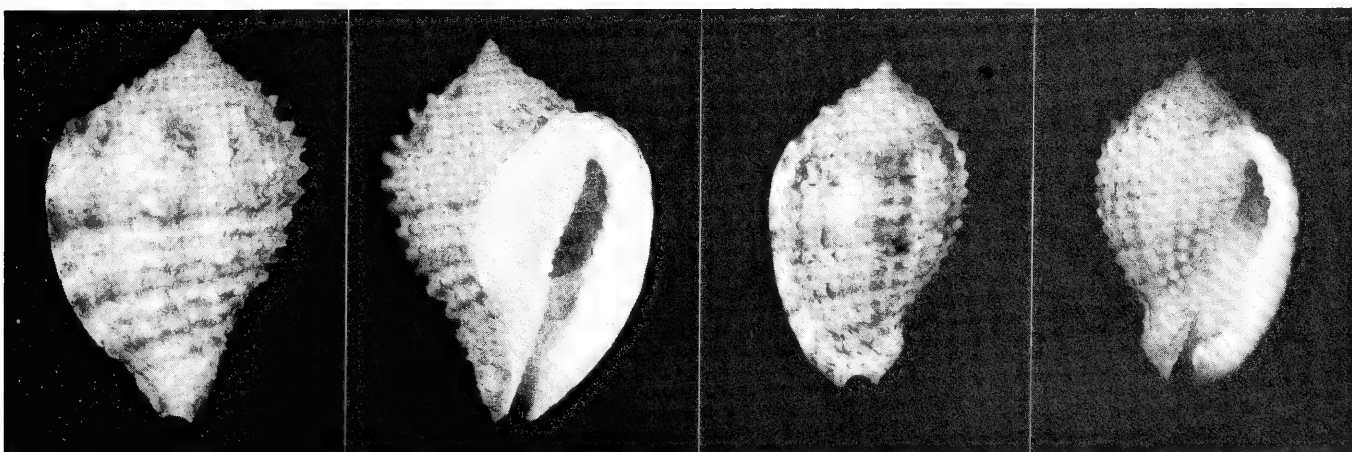
Fig. 1. *Morum bruuni* Powell, AbS 85-999 (see figs. 28-29, below), one of the rarest species of *Morum*. Fig. 2 (right). *Morum joelgreeni* Emerson, AbS 1484 (see figs. 15-16, below) collected by tangle nets in deep water in the southern Philippines (Davao, Mindanao).

## A PICTORIAL REVIEW OF THE GENUS MORUM

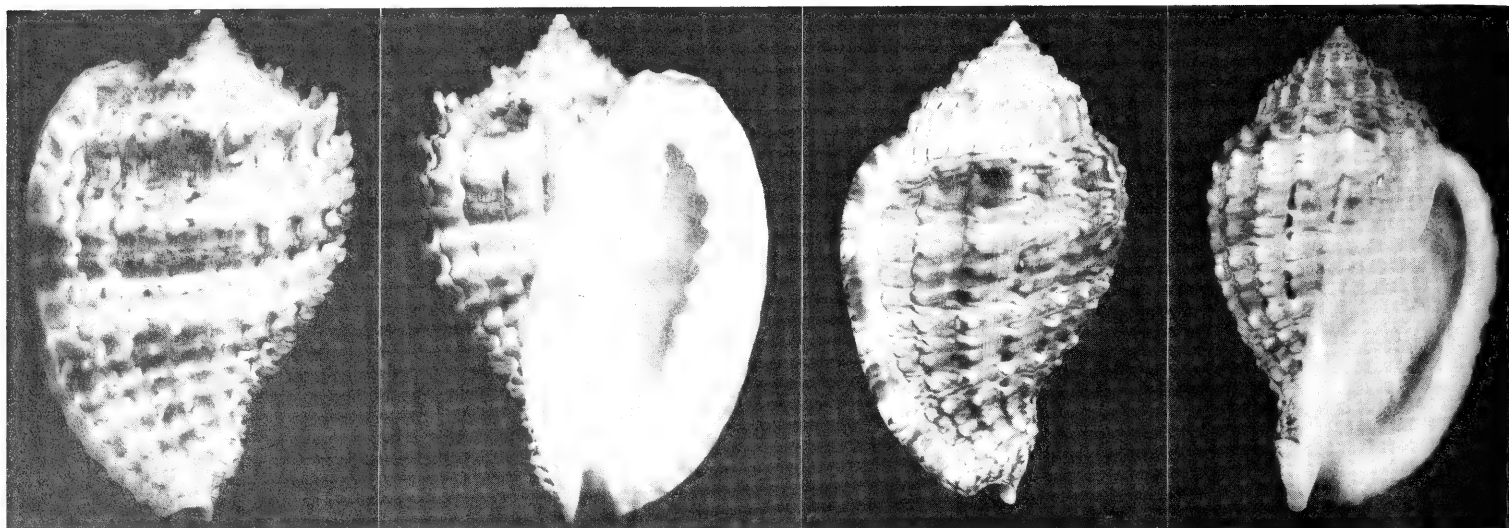
by CHARLES GLASS & ROBERT FOSTER



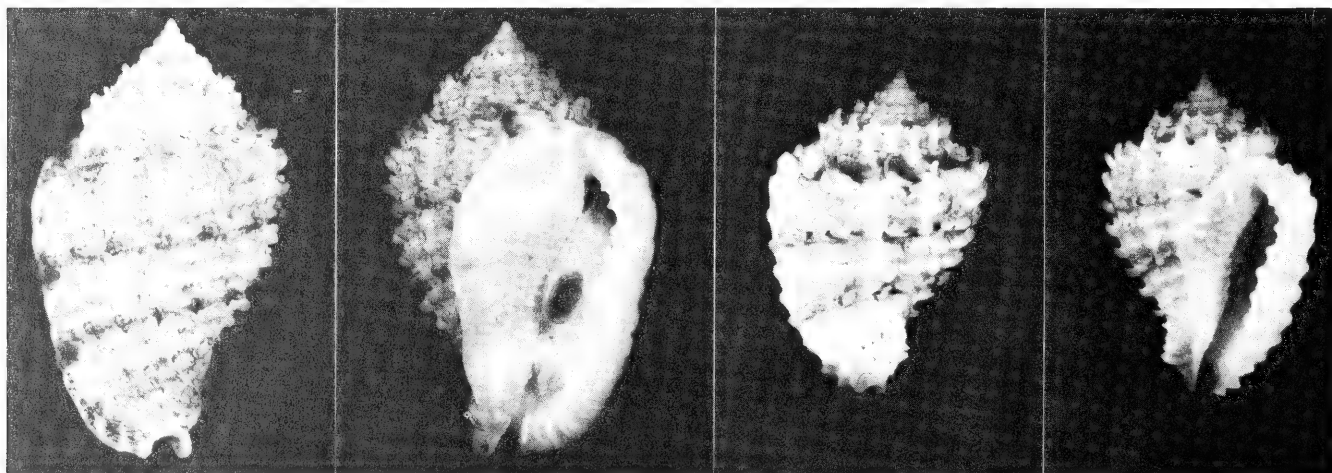
Figs. 3-4 (left). *Morum grande* (A. Adams), AbS 80-1137, 68.5mm, Taiwan. Figs. 5-6 (right). *Morum* cf. *cancellatum* (Sow.), AbS 85-1001, 70.8mm, W. Pacific [this shell possibly a form of *M. grande*].



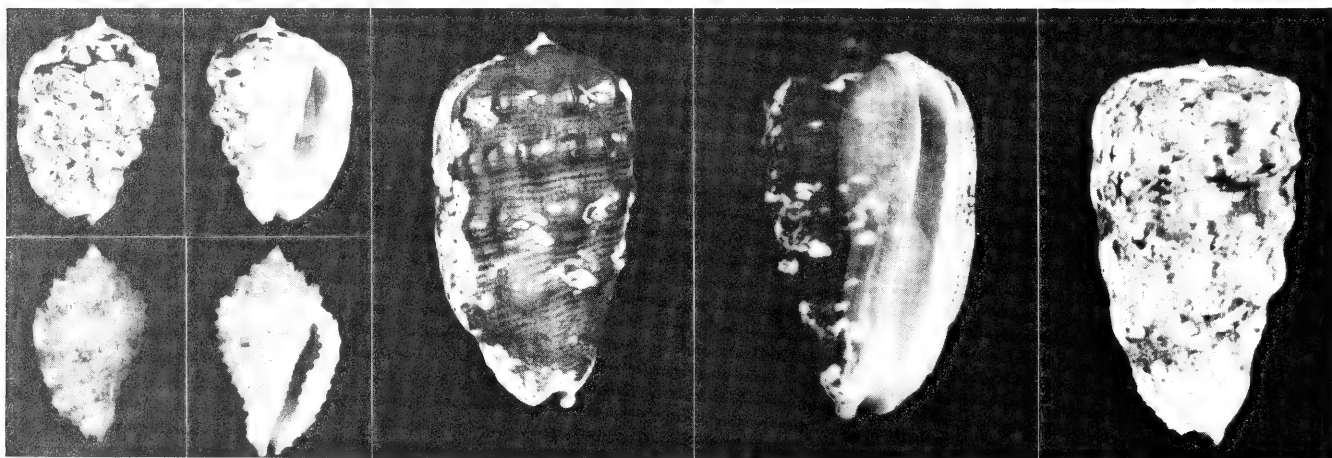
Figs. 7-8 (left). *Morum praeclarum* Melvill, AbS 85-1069, 30.4mm, South Africa. Figs. 9-10 (right). *Morum amabile* Shikama, AbS 85-176, 22.5mm, Taiwan.



Figs. 11-12 (left). *Morum watanabei* Kosuge, AbS 86-006, 39mm, Zamboanga del Norte, P.I. Figs. 13-14 (right). *Morum teramachii* Kuroda & Habe in Habe, AbS 84-157, 55.2mm, Panglao, Bohol, P.I.

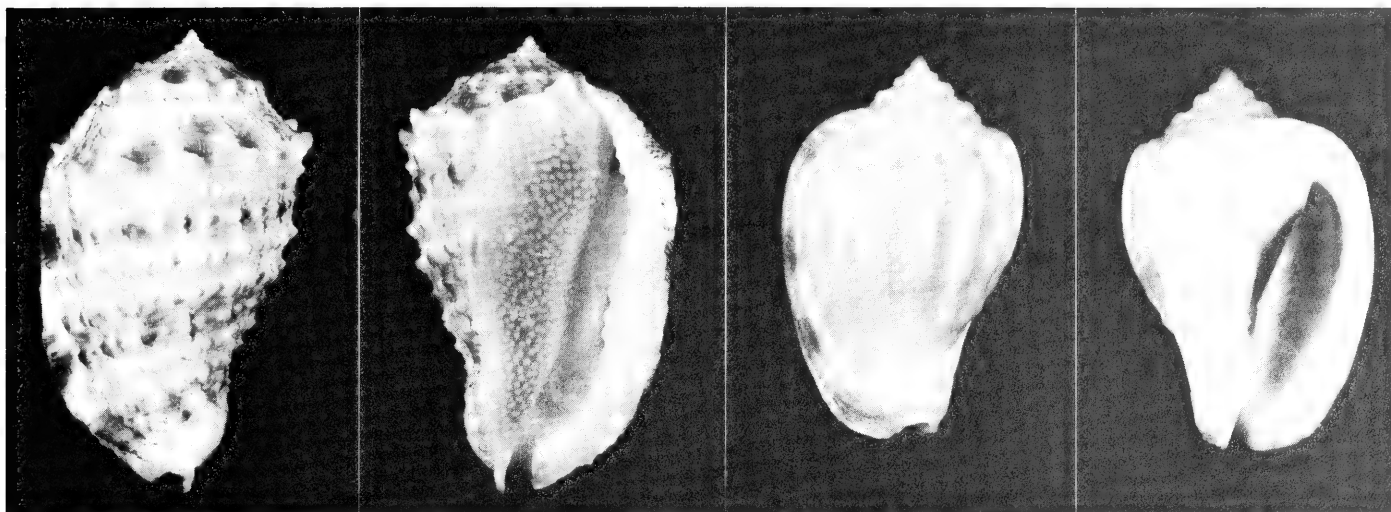


Figs. 15-16 (left). *Morum joelgreeni* Emerson, AbS 84-1484, 50mm, Davao, P.I. Figs. 17-18 (right). *Morum kurzi* Petuch, AbS 84-189, 25.5mm, Davao, P.I.

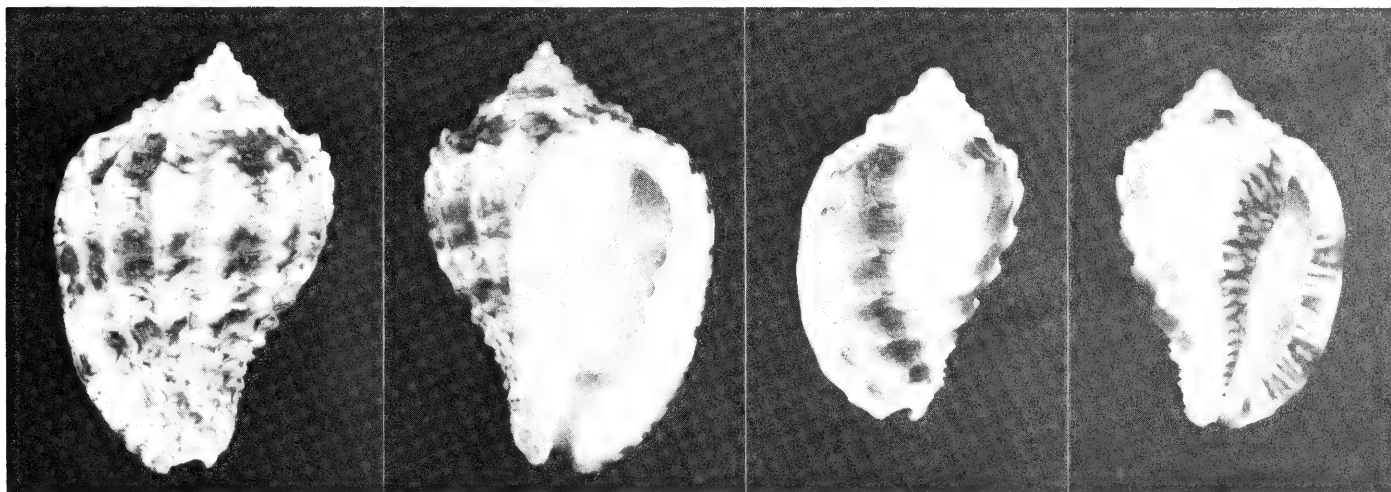


Figs. 19-20 (upper left). *Morum oniscus* (Linne), AbS 85-108, 23.3mm, Abaco, Bahamas. Figs. 21-22 (lower left). *Morum macdonaldi* Emerson, AbS 82-978, 17.2mm, Kwajalein. Figs. 23-24 (below: center). *Morum tuberculosum* (Reeve), AbS 80-1376, 41mm, Galapagos. Fig. 25 (below: right). *Morum tuberosum* (Reeve), AbS 81-301, 42.5mm, Galapagos.

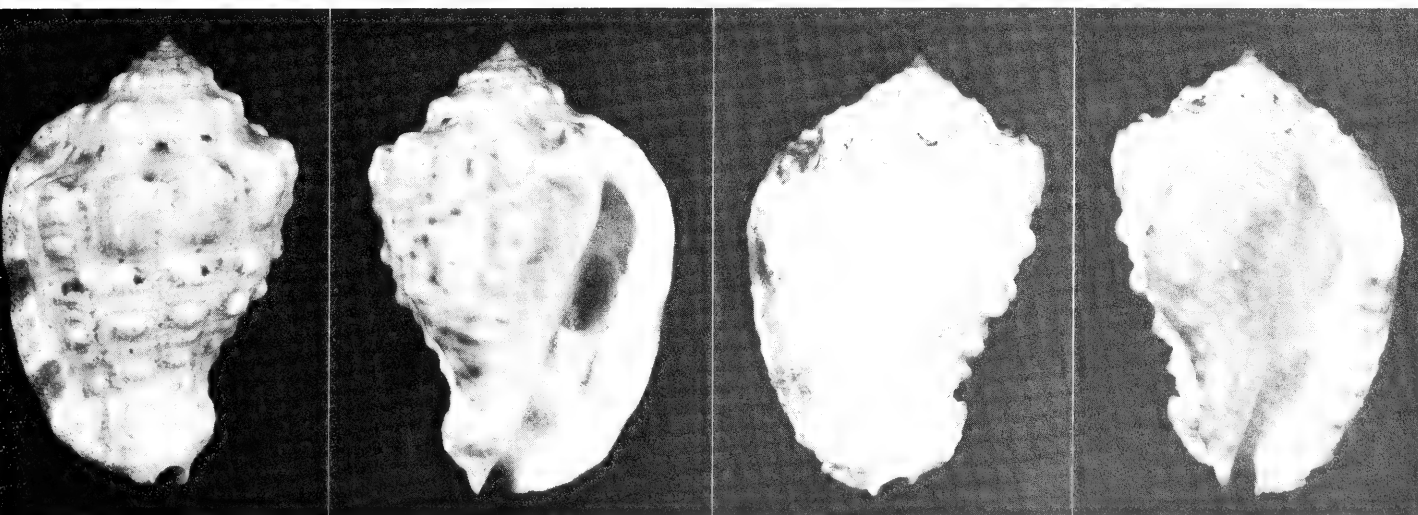




Figs. 26-27 (left). *Morum dennisoni* (Reeve), AbS 84-593, 52.2mm, 35fm off Colombia. Figs. 28-29 (right). *Morum bruuni* Powell, AbS 85-999, 30.3mm, Kermadec Islands.



Figs. 30-31 (left). *Morum macandrewi* (Sowerby), AbS 85-568, 34mm, Wakayama, Japan. Figs. 32-33 (right). *Morum mathewsi* Emerson, AbS 82-1778, 27.5mm, Brasil.



Figs. 34-35 (left). *Morum ponderosum* (Hanley), AbS 79-088, 35.1mm, Okinawa, Japan. Figs. 36-37 (right). *Morum exquisitum* (Adams & Reeve), AbS 84-188, 34.6mm, Laminusa Is., Sulu, P.I.



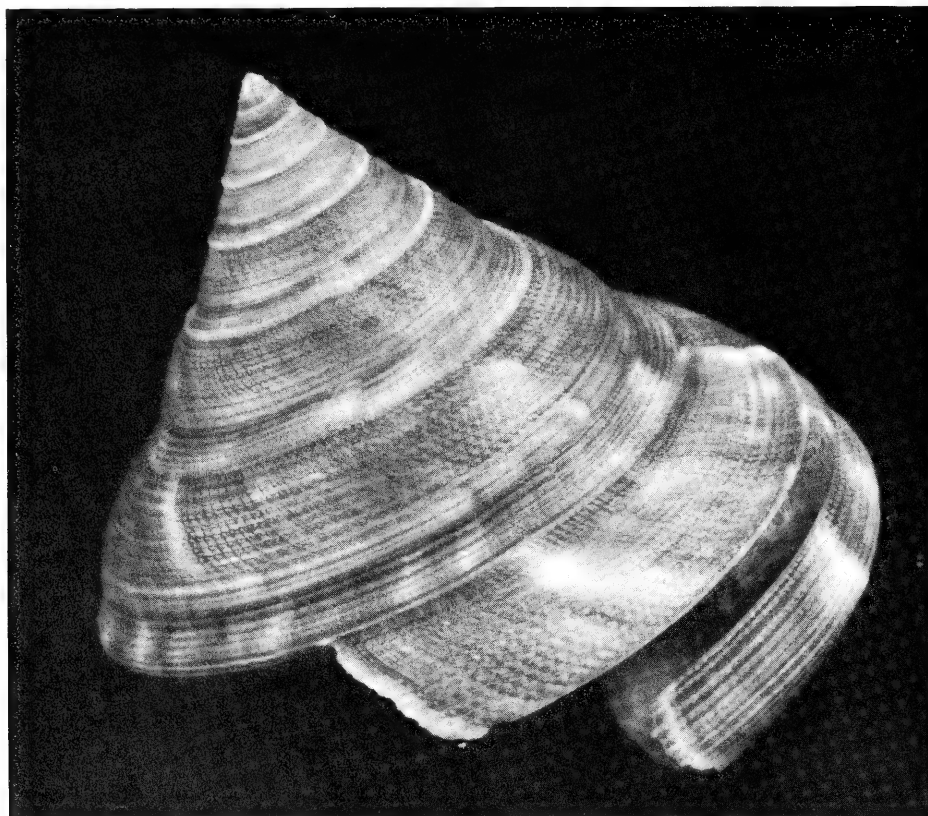


Fig. 1 (above). *Pleurotomaria vicdani* Kosuge, 1981, one of the most colorful (brilliant reddish orange and golden yellow!) and exceedingly rare. This specimen, AbS 83-707, was taken by net in 80-100fm off Balut Island, Davao, Mindanao, Philippines in July of 1983. It measures 50.3mm in diam. and ca 45mm high.

### THE RAREST OF THE RARE

by C. GLASS & R. FOSTER

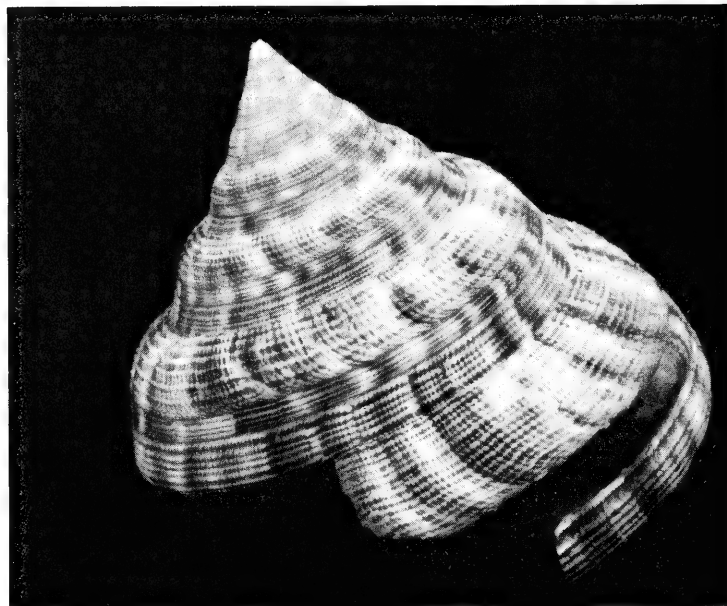
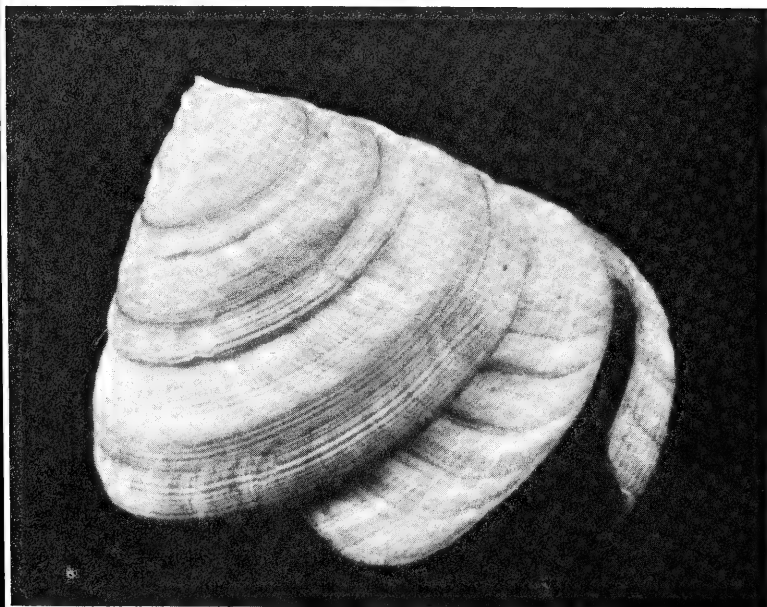


Fig. 2 (above). *Pleurotomaria atlanticus* Rios & Mathews, 1968, (AbS 75-504: 55.2mm in diam. and ca 50.5mm high) trawled by "Zeus" at 200m on muddy sand bottom off S. E. Rio Grande, Brazil, August, 1974.

Fig. 3 (left). *Pleurotomaria lucaya* (F.M.Bayer, 1965), a very pale colored species, this shell (AbS 83-001, 36mm in diam. and ca 32mm high) is from 160fm off the Grand Bahama Bank.

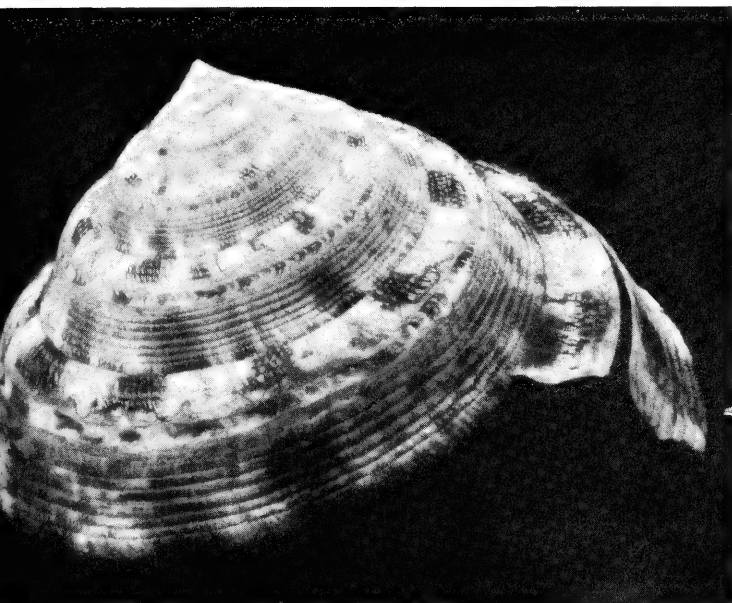


Fig. 4. *Pleurotomaria adansonianus* Crosse & Fischer, 1861, trawled in 210fm south of Grand Bahama Island, 89.1mm in diam., ca 69.5mm high. To the best of our knowledge, this is the only species ever taken by SCUBA (!) in 300 to 350 feet of water off the Grand Bahama Bank, Bahamas. The species is colored an attractive chartreuse yellow and purple red.

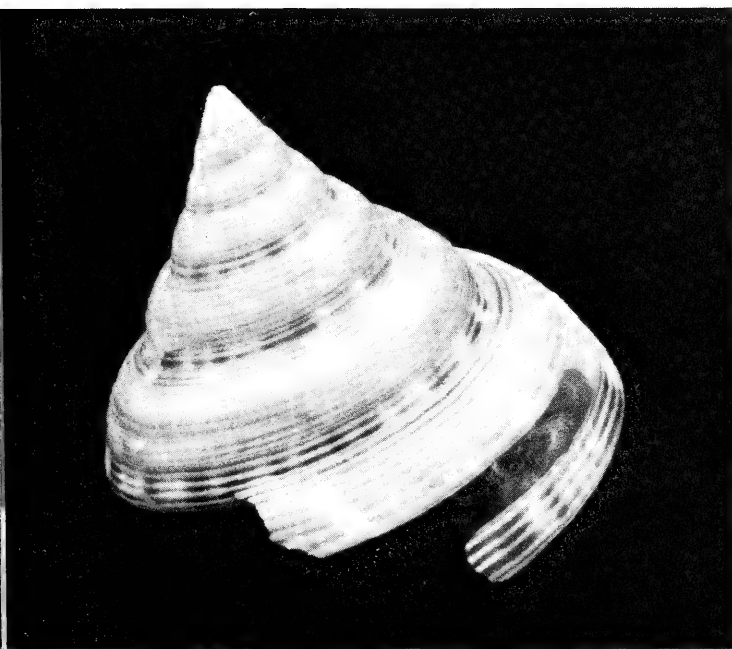


Fig. 6. *Pleurotomaria caledonica* Bouchet & Methivier, 1982, dredged from 400m on the west side of Isle of Pines, New Caledonia. This is by far the smallest known "Slit Shell". The figured specimen (AbS 86-047, 33.6mm in diam., ca 30.5 mm high) is larger than the holotype.

Fig. 5 (below). *Pleurotomaria quoyana* Fischer & Bernardi, 1856, (AbS 86-016, 47.9mm in diam., ca 39.5mm high) trawled at 220fm by commercial trawlers off Lesser Antilles, Caribbean.

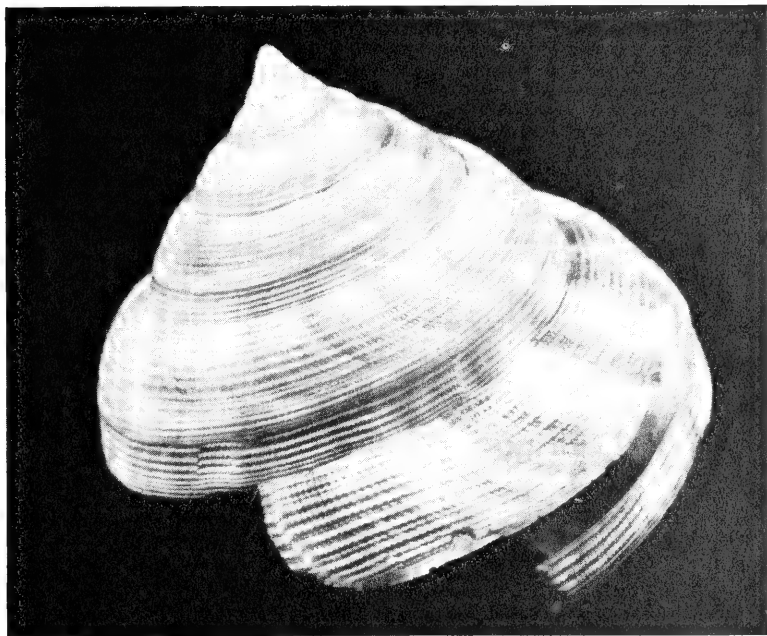
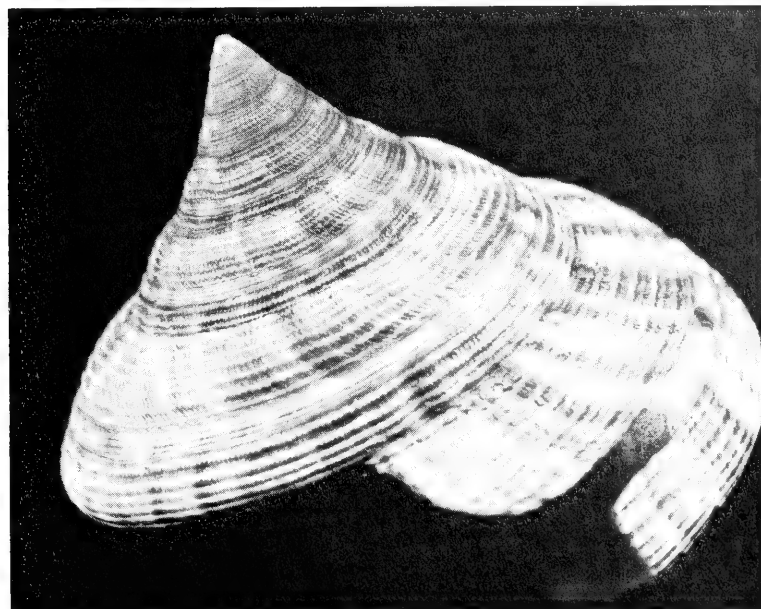


Fig. 7 (below). *Pleurotomaria amabilis* (F.M.Bayer, 1963), trawled at 200m by shrimpers off Jacksonville, Florida. AbS 83-002, 53.7mm in diam., ca 42.5mm high. A second specimen, dredged in 100fm off Dry Tortugas, is exceptionally large at 82mm diam.!



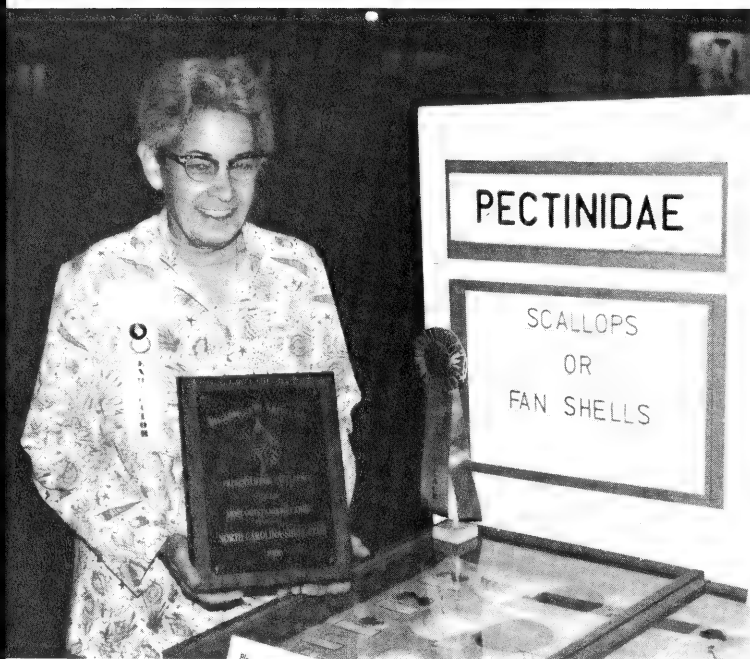


Fig. 1. Marion Magee with her COA Grand Trophy and blue ribbon next to her award winning display.

## C.O.A. GRAND TROPHY WINNERS

North Carolina Shell Show, Wilmington, N.C.,  
Oct. 24-26, 1986

WINNER: Marion Magee

TITLE OF DISPLAY: Pectinidae (Scallops or Fan Shells)

The exhibit contained 25 cases and 49.5 feet of beautiful shells with much scientific and educational material backing it up, 1 of 36 exhibits at the show. The judges were Walter Sage of the American Museum of New York and Treasurer of the COA and Hugh Porter of the UNC Institute of Marine Sciences in Morehead City, N. C.

Marion Magee is from Speedway, Indiana and a COA member.

## BYNE'S DISEASE

The Bishop Museum Department of Zoology is studying a shell deterioration condition known as "Byne's disease". The disease is a persistent problem in malacology collections in which acids released from cardboard and wooden containers cause chemical decomposition of shells. Adding to this serious problem is exposure to high temperature and humidity which promote the chemical reaction.

## 1987 WINTER & SPRING SHOW CALENDAR

**Southwest Florida Shell Show**, Ft. Myers, Florida, Jan. 16-18. Contact John Vaughan, box 05962, Tice, FL 33905 (813: 693-1913).

**Astronaut Trail Shell Show**, Melbourne, Florida, Jan. 23-25. Contact Jim & Bobbie Cordy, 385 Needle Blvd., Merritt Is., FL 32953 (305: 452-5736).

**The Greater Miami Shell Show**, N. Miami, Florida, Jan. 30-Feb. 1. Contact Beverly Larson, 8850 Byron Ave., Surfside, FL 33154 (305: 868-0145).

**The Broward Shell Club** is having its **23rd Annual Shell Show**, Feb. 6th to 8th at the Pompano Beach Recreation Center, 1801 N.E. 6th St., Pompano Beach, Florida. For further information call Peggy Fox: (305) 942-5985.

**The St. Petersburg Shell Show**, Treasure Island, Florida, Feb. 14-15. Contact Bob & Betty Lipe, 440 75th Ave., St. Petersburg, FL 33706 (813: 360-0586).

**The Sarasota Shell Club** will hold its **24th Annual Shell Show** on February 20, 21 and 22, at the Sarasota Exhibition Hall, 801 N. Tamiami Trail, Sarasota. For further information contact June Bailey, 813 Bayport Way, Longboat Key, Florida 33548 (813: 366-1550).

**The Naples Shell Show** will also be held from Feb. 20th thru Feb. 22, at the Coastland Mall, US 41 and Fleischmann Blvd., Naples, Florida. For further information contact Terry Fitzgerald, 660 York Terrace, Naples FL 33942 (813: 598-2579).

**The Sanibel Shell Fair**, Sanibel Island, Florida, March 5-8. Contact Ralph Moore, 1214 Gulf Drive, Apt. E2, Sanibel, FL 33957 (813: 472-4202).

**The Marco Island Shell Show**, Marco Island, Florida, March 10-12. Contact Evelyn & Malcolm Currier, 809 Dandelion Court, Marco Island, FL 33937 (813: 394-7898).

**The Central Florida Shell Club** proudly presents its **Fourteenth Annual Shell Show, SHEL-LARAMA 87**, March 13, 14 and 15, 1987 at Sea World, Orlando, Florida. For further information contact Show Chairmen, Dave and Lucille Green, 5853 Pitch Pine Dr., Orlando FL 32819 (305: 345-0286).

**The Cincinnati Shell Show**, Cincinnati, Ohio, April 24-26. Contact Lois Nizny, 3953 Rose Hill Ave., Cincinnati OH 45229 (513: 861-5875).



## CLUB CORNER

### The Gulf Coast Shell Club

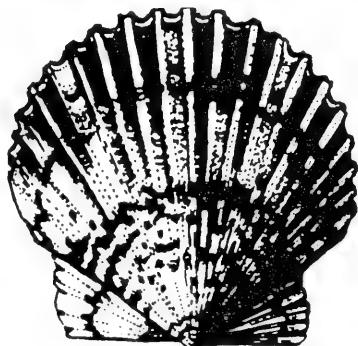
The Gulf Coast Shell Club was founded in September of 1980. The Atlantic Bay Scallop [*Argopecten irradians concentricus* (Say, 1822)] is our club shell. Our club newsletter, "Shell and Tell" is published six times a year. Dues are \$5.00 for single membership, \$7.00 for family membership with a \$5.00 initiation fee. Meetings are held the second Tuesday of each month (with the exception of June when we have a club picnic on the first Saturday and December when our Christmas party replaces our meeting). We meet at the Bay County Jr. Museum and meetings begin at 7pm. Visitors are always welcome.

We have field trips from October through May. These months usually offer the best low tides. Snorkeling field trips from June through September are usually arranged by those members who snorkel. We have held a shell show the last four years. This year, however, the membership decided to hold a shell show every other year. Our next show will probably be held October 1987.

A few years ago we published "Seashells of Bay County and the Gulf Coast", an informal guide to assist in the identification of shells found in our area. The pamphlet contains 96 black and white photographs and descriptions of each. There is also a map showing the main areas where we shell. Each location is numbered and that number is included in the description of the shells found in those areas. We are in the process of revising our Northwest Florida Shell List. When finished, the list will contain about 240 species of mollusks that we have identified.

Planning a trip to or near Panama City? If so, contact us ahead of time and we will make every effort to show you the best shelling areas. Ya'll come and let the Gulf Coast Shell Club show you some Northwest Florida hospitality.

Alta van Landingham  
box 542, Hampstead, NC 28443



*Argopecten irradians*  
*concentricus*

### PRESIDENT'S MESSAGE (cont. from page 58):

purposes and goals of the C.O.A." Requests for the 1987 grants must be submitted no later than May 15, 1987 to Dick Forbush, Grant Awards Chairman, 1104 Sklar Drive E., Venice, FL 33595.

Other continuing projects include the C.O.A. Local Club Representative Program. Vice President Donald Young is coordinating activities for the Reps. this year. Participating clubs will be receiving information about other C.O.A. projects through your Club Reps. A limited number of official C.O.A. T-Shirts and Tote Bags are still available for sale through Anne Joffe, 1163 Kittiwake Circle, Sanibel, FL 33957. The cost for T-Shirts are \$8.00 and Tote Bags \$4.00--postage is extra. Write Anne for total costs and availability of sizes and colors on the T-Shirts.

The 1987 C.O.A. Convention in St. Louis is shaping up to be another shell collecting event! Many new and exciting activities are being planned, and details will be forthcoming. A dynamic series of speakers and slide presentations are being scheduled. There are still a few slots open for speakers. If you would like to give a talk at the convention, send me a brief summary of the topic, length, and audio/visual needs. The dates are June 23-27, so mark your calendars off. This will be C.O.A.'s first Midwest convention, which will give you a golden opportunity to meet and mingle with many of our fellow collectors who have not yet had the chance to attend previous conventions. I look forward to meeting many of you there!

Until next time, *HAPPY SHELLING*...Richie

### RANDOM MEMBERSHIP NOTES

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The C.O.A. Grant Awards Committee is accepting submissions for grants, "by persons or organizations for projects or research that will help further the interests of conchology and malacology and are in keeping with the purposes and goals of the C.O.A." A one page outline of the project should be sent to Richard W. Forbush, 1104 Sklar Drive East, Vencie, FL, 33595 no later than May 1, 1987.

Richie Goldberg, President



## SHELLS IN PRINT

by Richard L. Goldberg

**ATLAS OF THE LIVING OLIVE SHELLS OF THE WORLD** by E.J. Petuch and D.M. Sargent has just been published (November 1986) by the Coastal Education and Research Foundation (CERF) P.O. Box 8068, Charlottesville, VA 22906. The small format (6"x9") hardcover book contains 253 pages including 39 color plates and 33 text figures/maps. The publication price is \$68.50 plus \$2.50 for postage.

The book is laid out in eight chapters covering background information on the *Oliva* such as Morphological Characteristics, Evolutionary History, Ecology, Systematic Arrangement, Zoogeography, Synoptic Compendium, and Systematics; the latter being the bulk of the book. A glossary and bibliography follow the color plates.

The Systematic section dealing with the genus *Oliva* contains a major overhaul in the taxonomy of this group as evidenced by the naming of 28 new species, 18 new subspecies, 10 subgenera, along with 3 name changes, and numerous forms raised to specific level, according to the authors. The use of subgenera (19 in all) has its merits, as it is the first recent work to arrange the *Oliva* species by morphologically similar characteristics. It must be mentioned that this is strictly a conchological work, as no attempt was made to study the animals. Text for each of the olives in many cases ranges from one line descriptions for color forms, to more indepth descriptions for new species. The more detailed text includes a description of shell characteristics, discussion of similar species and taxonomy, geographical distribution (in some cases habitat data) and size range. As mentioned previously, a number of olives considered forms or subspecies have been raised to full species status in this work. Based on morphological characteristics, the authors have split the genus *Oliva* into over 300 species, subspecies and color forms. There certainly will be a variety of opinions, both pro and con to the taxonomic arrangement presented by the authors.

Some improvements that might have been worthy for inclusion in this publication include discussion of animal characteristics, enlargement of the shells on the color plates so that more detail of the columellar plications and fasciole on the smaller species would be visible, and being that this is a book on the living olives, photographs of at least some of the live animals. Obviously most of these additions would have added to the cost of the book, but might be considered for a future edition. A few errors have found their way into the text and hopefully will

also be amended in a future edition.

This is the first major attempt to revise the genus *Oliva* in 17 years, and *Atlas of the Living Olive Shells of the World* will find its place next to other specialized and complete works on the olives.

### 20th Annual Meeting of the WSM

The Western Society of Malacologists will hold its annual meeting in 1987 on the campus of the San Diego State University on June 21st thru the 25th. All persons interested in malacology, paleontology and/or conchology are invited to attend. For further information please contact Carole M. Hertz, President WSM, Dept. of Marine Invertebrates, San Diego Natural History Museum, box 1390, San Diego, CA 92112.

### MEMBERS' CORNER

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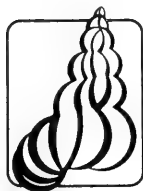
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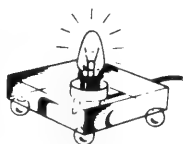
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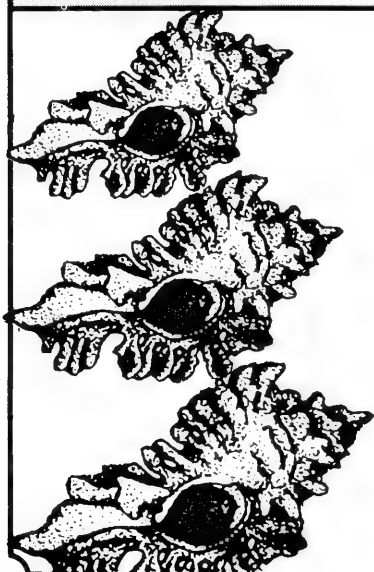
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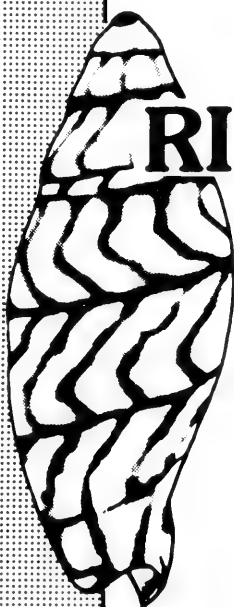
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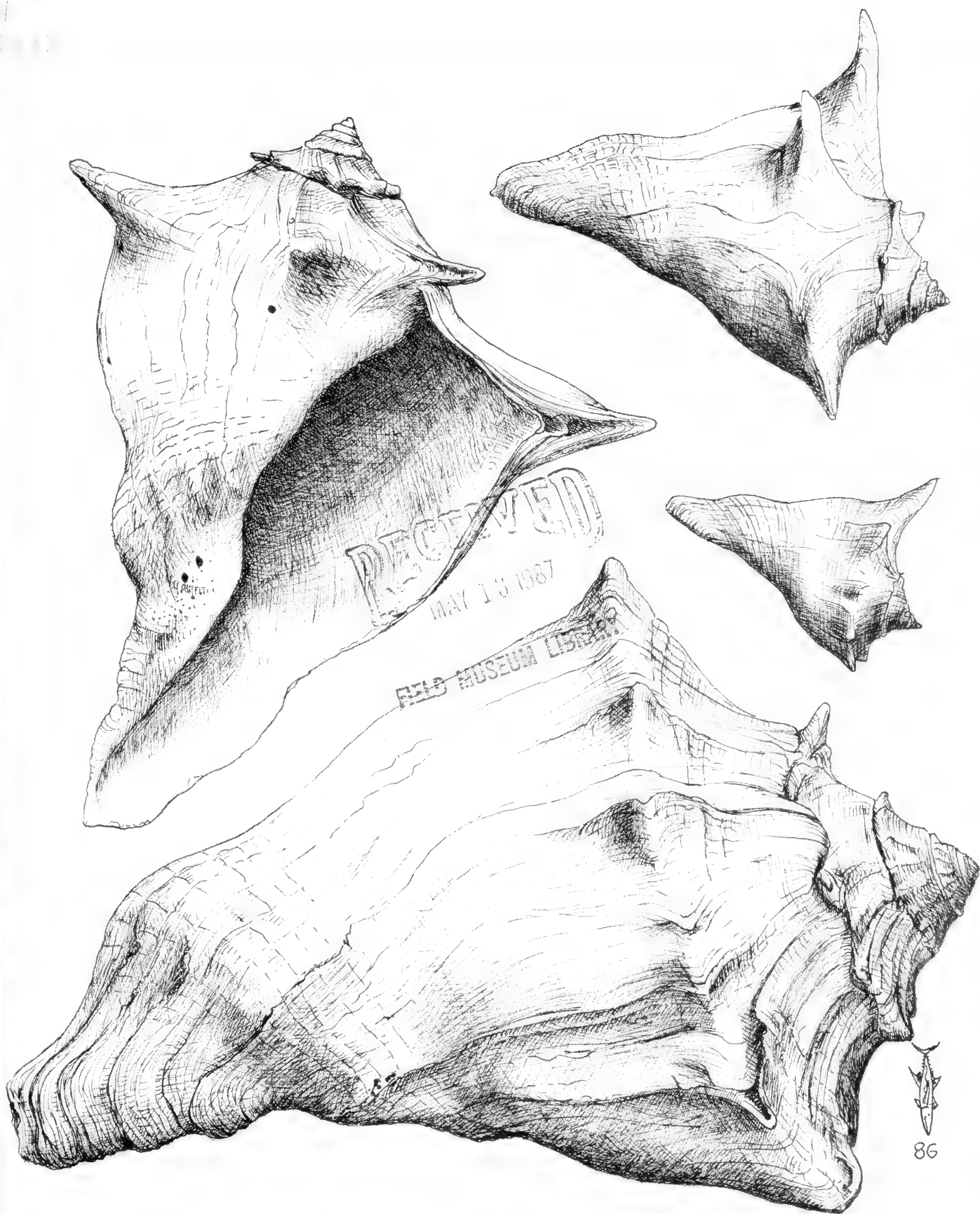
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VOL. 15, NO. 1

MARCH 1987



*In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors — for amateur collectors interested in the beauty of shells, their scientific aspects and the collecting and preservation of mollusks. The membership includes novices, as well as advanced collectors, scientists and shell dealers from around the country and world. An annual convention is held each year in a different part of the country.*

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**Cover:** *Busycon carica eliceans* (Montfort, 1810), Ossabaw Island, Georgia. By John Timmerman, Belle Mead, New Jersey.

**Blanch Boorman** writes from Rockhampton, Queensland, Australia: I wonder if you could pass on a message to members contemplating a visit to Australia, now that the exchange rate is so much in your favor. Most intending visitors know Australia is an island, but few know it is the largest island in the world, with a land mass approximately the size of the U.S.A. Therefore, it really isn't possible to land in Sydney and drive to Yeppoon or Cairns in a day. Yeppoon is 2000 kilometers from Sydney and Cairns is another 1000. The motto is, if you want to see the country, allow yourself time. If you want to collect shells, January to early April is our wet season, with the occasional cyclone thrown in, and tides aren't good then anyway. For good shelling, April to October is recommended. Our population is 16,000,000, so there are often great distances between towns. It is still a great holiday destination if you plan.

**PERSPECTIVES IN MALACOLOGY**, proceedings of a symposium in honor of Professor Melbourne R. Carriker, includes reports of recent advances in many facets of malacology. It is an AMU Special Edition, and is available from AMU Corresponding Secretary Paula Mikkelsen, Harbor Branch Oceanographic Institution, 5600 Old Dixie Highway, Ft. Pierce, FL 33450-9719. Price: \$10.00 AMU members; \$15.00 non-members.

## PRESIDENT'S MESSAGE

As the COA gears up for its Fifteenth Annual Convention, I hope all of you will mark your calendars off for these dates. Many new and exciting projects are in the works for the organization, and with this issue, we welcome our new editors, Lynn Scheu and Margarette Perkins. Please support them with articles, pictures and short notes about your last shelling trip or maybe a recent shell discovery or acquisition. Let's make COA's slogan, "A Collective Devotion to Advancing Conchology," even more meaningful by contributing to the **Bulletin**.

As the **Bulletin** starts a new chapter with our new editors, I would like to thank both Charlie Glass and Bob Foster for the four years of dedicated and professional work they put into the **Bulletin**. Charlie's creativity and ability to turn a printed page into a visually pleasing and enjoyably read issue is evident in the eighteen **Bulletins** he published. It has made the COA **Bulletin** one of the most respected and professional conchological publications. Hats off to Charlie and Bob for a job well done!!

The COA Club Representative program is into its second year, and the club reps. will be representing their clubs again, this time in St. Louis. The COA is in the process of computerizing its membership and editorial functions, and we will have more news about this in the next issue. The new constitution will be ratified at the annual business meeting. I look forward to meeting you at the convention. Those who have attended past conventions can lay testimony to the fact that the COA Convention is the Conchological Event of the Year! See you in St. Louis!

**RICHIE**

## EDITORIAL

As the frantic work of preparing our first issue of the **Bulletin** drew to a close, we found ourselves faced with a single blank space, the Editorial Column. We wondered what we could possibly contribute to a column traditionally reserved for an inspiring, thought-provoking message from that august personage, The Editor. Brand new to the job, overwhelmed, insecure, we'd barely struggled through.

But then we knew what we had to say: new, overwhelmed, insecure, we HAVE struggled through. We have put out a **Bulletin**. And we have done it because of the flood of help and welcome offered by the COA officers, chairmen and members alike. President Richard Goldberg, Treasurer Walter Sage and Publicity Chairman R. Tucker Abbott have been lavish with expert advice, support and articles. Former Editor Charles Glass has bequeathed to us the fine tradition of a publication both beautiful and respected. Other Board members have exhibited great patience and understanding and extended their support and welcome all along our often rocky way.

And from the membership arrived the most vital support of all, contribution of articles, ideas and illustration. John Timmerman, our cover artist this issue, has spent countless hours with pen and ink for our delight and instruction. Alta Van Landingham has pitched in, amid trips to Palau, speaking obligations and the shell show circuit, placing her help at our disposal. George Karleskint, a biology teacher as well as a shell dealer, also in the midst of the Florida shell show season, has taken the time to write us a long and instructive article. The list goes on and on.

The inspiring message is this: we barely know these people. All this help, support and contribution is extended, on behalf of COA, from shellers to another sheller. We've always known that shell collectors were a close and friendly fraternity, but COA both embodies and intensifies this *esprit de corps*. With officers and a membership of such calibre, anything is possible. We are proud to be a part of an organization like COA and can't wait to Meet You in St. Louis!

## SHELLING THE OUTERBANKS AFTER A HURRICANE

by John R. Timmerman

I'd collected shells on Portsmouth Island for years, but had always heard that beachcombing, especially for the famous Outerbanks black fossils, was best after a major hurricane. It wasn't until two days of collecting last fall after Hurricane Gloria that I got my chance.

I arrived at Ocracoke Island, just northeast of Portsmouth, about a week after Gloria. The beaches of Ocracoke had been nearly stripped of all shells by this time, so I went on to Portsmouth. Part of Cape Lookout National Seashore, Portsmouth Island doesn't have a permanent community on it and is largely deserted. It's accessible from Ocracoke by small boat. I went for day trips on two consecutive days.

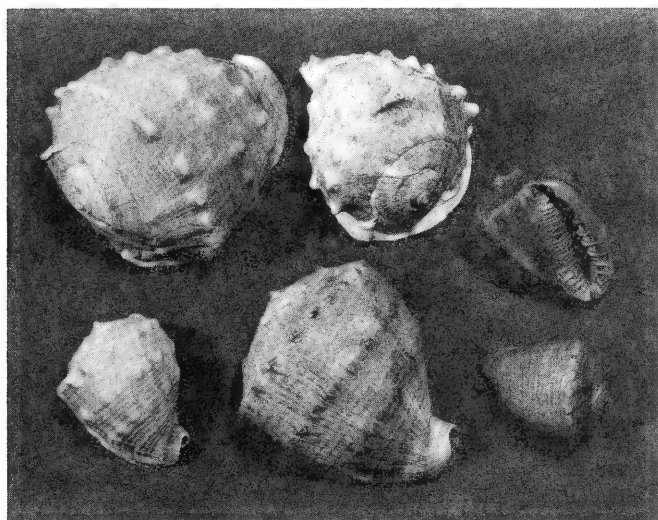


Photo by John Timmerman

*Cassis madagascariensis* form *spinella* Clench, 1944 (upper right) and *Cassis madagascariensis* Lamarck, 1822 from Portsmouth Island. 92-175mm. Gray-black Pleistocene fossils.

The weather on these days was a mixture of sun, rainshowers and thunderstorms. Fortunately, no thunderstorms passed directly over me, because the island offers little cover, consisting primarily of open sand flats and scattered grass-covered dunes. The storm had reduced the size and number of sand dunes and flooded the sand flats. As I set off, I discovered almost immediately that many areas of the sand flats had been eroded and refilled with loose sand, creating quicksand. Making a hasty retreat to firm sand, I was soon able to recognize suspect areas and avoid them. The beach toward the ocean had been cut into many shallow coves, dry at low water. Scattered across the sand flats, about a mile south of Ocracoke Inlet, were dead *Spartina* Grass and Sargasso Weed in great mats, as much as two feet thick, thirty feet wide and hundreds of yards long. Mixed with this debris were fish bones, dead mammals, snakes, miscellaneous sea life, and SHELLS!

Shells were mixed into the grass mats, in pockets of water, and along the front edge of the mats facing the ocean. Black semi-fossil shells (Pleistocene) predominated here. The first shell I found was a fresh dead Scotch Bonnet, *Phalium granulatum* (Born, 1778), lying on top of a pile of grass. What a sight that was! The grass acted as a cushion to incoming shells, preventing breakage. I found such fragile species as *Tonna galea* (Linne, 1758) intact here. Most of the more common species were present by the hundreds. Where I normally might have kept a large *Cassis madagascariensis* with extensive borings in the dorsum, I now rejected it. When the tide was out, larger shells could be found on

the exposed sand flats. The storm had reshaped the beach so that there was no pounding, shell-destroying surf.

Further down the beach I found less grass and seaweed, fewer black shells, but more fresh ones. A long stretch of beach and sand flat became covered with a couple of feet of water at high tide, making walking treacherous as the areas of quicksand became invisible. Old remains of wooden shipwrecks were exposed in this area. There were small beds of shells around remaining sand dunes. A prize find here included a red and pink True Tulip, *Fasciolaria tulipa* (Linné, 1758) that measures 208 mm. I spotted this one from a great distance, lying fully exposed. It reminded me of raw beef lying there on the white sand. Just before I had to turn back for the last time, I found a live *Murex fulvescens* (Sowerby, 1834) and a large *Cassis madagascariensis* Lamarck, 1822, not the usual *spinella* form. How I wanted to continue down that beach! But I had covered three to four miles and was running out of time. As it was, I had to wade through about a mile of water because the tide had come in.

My collection of Pleistocene shells increased dramatically in number of species and quality on these two days. I added several shells I had little hope of finding: *Scaphella junonia* (Lamarck, 1804) (several holes but still rare and black!) and *Cancellaria reticulata* (Linné, 1767). The huge red Tulip Snail was a prize I knew occurred here, so I was pleased with it. I found a large

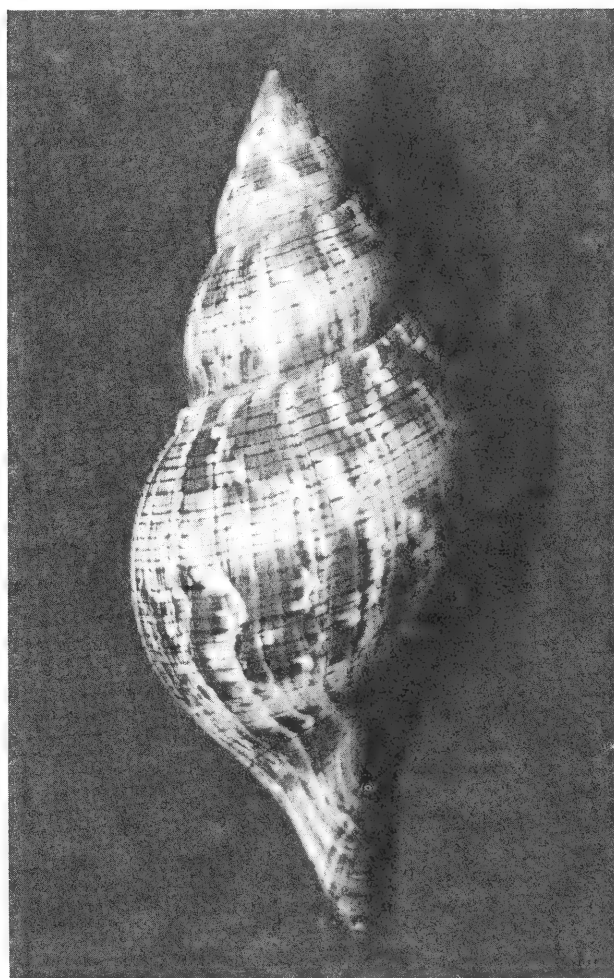


Photo by John Timmerman

*Fasciolaria tulipa* (Linné, 1758) from Portsmouth Island. 208mm. Red on a pink ground.



Pleistocene Horse Conch *Pleuroploca gigantea* (Kiener, 1840) during my first day, a shell I've dreamed of finding there since childhood. I have Florida specimens, but I wanted an Outerbanks Horse Conch. I was happy.

I've appended an annotated list of shells I found:

P = Pleistocene fossil	R = Recent specimen
<b>SHELL NAME</b>	<b>COMMENTS</b>
Phalium granulatum P,R	75mm large for here
Cassid madagascariensis spinella P,R	1 with three lips
Cassid madagascariensis P,R	3 with double lips
Tonna galea P,R	less common here — 4 specimens
Ficus communis R	black — incomplete
Busycon spiratum pyruloides P,R	1 specimen at 120mm
Busycon carica P,R	
Busycon contrarium P,R	261mm — my largest of trip
Busycon canaliculatum P,R	best black ever — 190mm
Busycon perversum (?) R	2 specimens — very worn — 173mm
Xenophora conchyliophora P,R	black with most attachments off;
	rec. specimen with black attachments
	largest 85, others 80mm
Polinices duplicatus P,R	102mm black; another in brown
Lunatia heros P	coquina limestone
	only broken specimens
Natica canrena P	1 heavily worn specimen
Conus delessertii P	54mm black
Cancellaria reticulata P	97mm worn, black/orange spots
Scaphella junonia P	
Serpulorbis decussatus R	
Cantharus tinctus R	
Calliostoma euglyptum R	
Strombus alatus P,R	
Pleuroploca gigantea R	368mm (14.5")
Fasciolaria tulipa P,R	208mm red/pink, fresh
Fasciolaria hunteria P	112mm gray/brown stripes
Murex fulvescens P,R	139mm black, worn; 98mm live
Cymatium cingulatum P,R	all damaged
Pholas campechiensis P	single valve, deep gray
Anatina plicatella R	valves attached
Arca imbricata R	single pair w. perios. and
	bryozoan encrustation
Tagelus divinus R	several attached pairs
Semele proficua R	abundant
Macrocallista nimbosa R	170mm, abundant pairs
Dinocardium robustum R	some still alive; many specimens showing
	transition of robustum to r. vanhyningi
	very common, attached pairs
Divaricella quadrisulcata R	

COA member John Timmerman (79 Knickerbocker Drive, Belle Mead, NJ 08502) is a free lance artist specializing in wood sculpture. In addition to shells, he collects bones and skulls, exotic house plants and all things natural.

## MEET THE EDITORS

by Mary Ruth Foglino  
Long Island Shell Club

This issue of the *Bulletin* introduces our new editors, Lynn Scheu and Margarette Perkins. Recent members of COA, they look forward to attending their first Convention this June in St. Louis. Lynn served as newsletter editor for the Louisville (Kentucky) Conchological Society, working with current COA treasurer Walter Sage before his move to the American Museum of Natural History, Margarette is a past treasurer of the L.C.S.

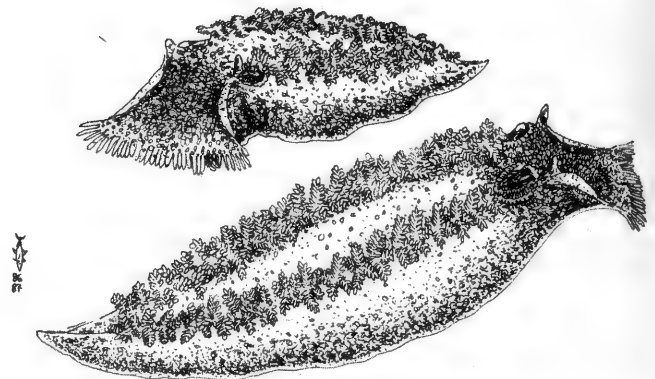
A shell collector since childhood days in Jacksonville, Florida, Lynn initially self-collected, but has expanded both her interests and her collection since then. Although very fond of miniatures, Lynn has "never been able to specialize."

Lynn has curated the shell collection at the Louisville Museum of History and Science for eight years. Starting work after the new museum was completed, she reconstructed a collections from cartons of packed-away shells, reuniting specimens with their data and deciphering faded labels.

A former English teacher, Lynn lives in Louisville with her husband Richard and sons David, 17 and Michael, 15. They have always helped collect shells while on vacation, but their many other interests fill their time back home, so managing the Scheu

shells is Lynn's task. Both Lynn and Richard are master swimmers who practice three or four times a week and participate in competitive age-group swim meets.

Margarette Perkins will be helping Lynn as Associate Editor. A multi-faceted naturalist, Margarette's interests are land snails, Naiades, *Strombus* and *Cymatium*. Margarette has two college age children, Shawna and Donnie. She is head librarian of a large branch of the Louisville Free Public Library.



Pen and ink drawing by John Timmerman.  
*Tritonea diomedea*

## WHY MOON-STRUCK SNAILS FACE EAST

by R. Tucker Abbott

Man could not explore the distant seas and discover new worlds until he had invented the magnetic compass. The magnetic field of the earth points the needle to the north, so man's sailing ships could be kept on course.

But sea creatures have been responding in a similar way for millions of years, according to Drs. Kenneth J. Lohmann and Dennis Willows in a *SCIENCE* article of January 1987. They have found that the dorid nudibranch, *Tritonia diomedea* Bergh, generally orients itself towards the east, a sensible choice for a species living along the entire west coast of North America. Evidently, the Rosy Tritonia is constantly responding to the earth's geomagnetic field. In carrying out their careful experiments in darkened mazes and by exposing the seaslugs to artificial magnetic fields, the two authors stumbled upon the fact that the moon-phases also influence the direction in which these nudibranchs align themselves.

During periods of full moon, the vast majority of the nudibranchs turned eastward, while during new moon phases there was no preference in direction. Similar results were published for the Nassa Mud Snails by F. A. Brown twenty-four years ago. Further studies have confirmed that a neuron in the foot is the secret receptor for the earth's magnetic messages. This strange power is found in certain cells loaded with peptides. The five-inch Rosy Tritonia is illustrated in color in the *GUIDE TO THE NUDIBRANCHES OF CALIFORNIA* published in 1960 by American Malacologists, Inc.

This molluscan breakthrough in knowledge may lead to an explanation of how homing pigeons can return to their sites of release and how mud snails and insects respond to lunar phases. We wonder if eastern snails are wont to face westward.

Recently we heard a curious fable among native naturalists on Manus Island in the Admiralty Chain off New Guinea. They claimed that the Green Tree Snail, *Papuina pulcherrima* Rensch, crawled at night to the side of the trees that faced the full moon. Could such tales have some substance?

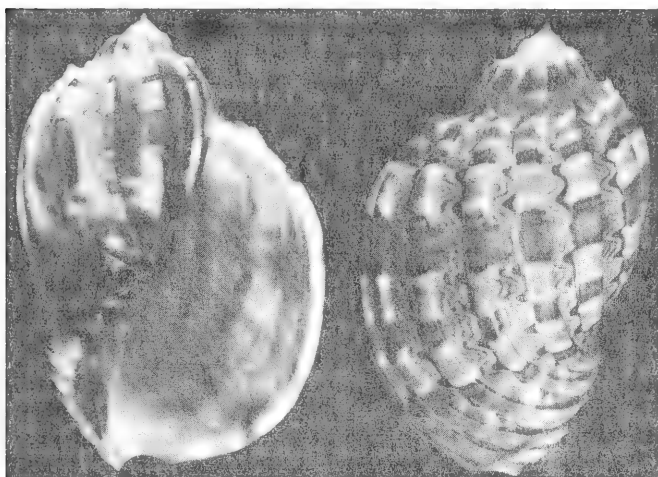


Photo by R. Goldberg

*Harpa harpa* (Linne, 1758) — 110.7mm — Midway Islands.

## HAWAIIAN GIANTS

by Richard L. Goldberg

Record size shells, or more aptly, "largest known specimens," have always been intriguing to collectors, as evidenced by numerous lists recording these giants. Some consider these lists nothing more than "mine is better than yours" lists. On the other hand, they have definite scientific value in that they record just how large a species can grow.

The *Harpa harpa* (Linne, 1758) was taken in a lobster trap placed at 350 feet off Midway. At 110.7mm it is recorded as the largest known specimen with Robert Wagner, editor of World Record sizes of the Standard Catalog of Shells as of December, 1986. When shells are found at the limits of their geographical range, they sometimes tend to lose their typical shape, sculpture and/or color pattern characteristics, perhaps because of restricted genetic flow from the main population, perhaps due to ecological extremes like temperature. Such is the case with this Harp. A beautiful terra cotta to pinkish shell, it is more inflated and thicker ribbed than normal, possibly due to the cold, deep water it was found in at Midway, far north of and deeper than its normal habitat. The cold water may also account for the shell's extreme size.

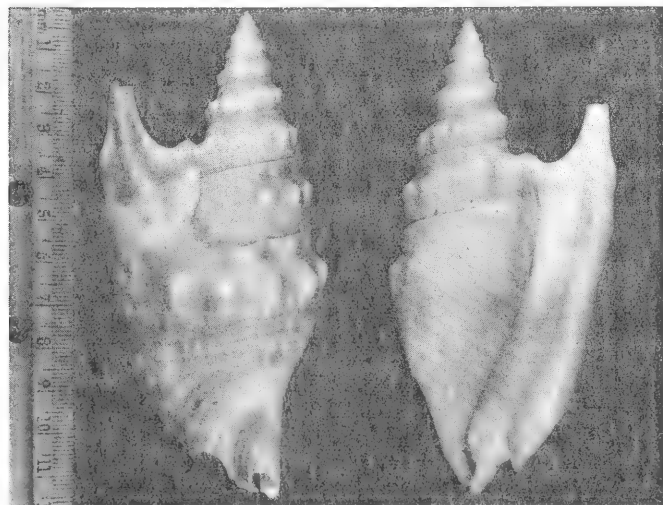


Photo by R. Goldberg

*Strombus vomer hawaiiensis* Pilsbry, 1917 — Oahu, Hawaii.

*Strombus vomer hawaiiensis* Pilsbry, 1917 is a rare shell at any size, but at 114.7mm, it might be considered unique. Often new size records inch-out previous records by just a millimeter or two. Normally about 70-90mm, the previous largest recorded specimen was 105.8mm, making this new record a substantial increase. The illustrated new record size shell is a dead-taken specimen, collected scuba diving in sixty feet of water off the west coast of Oahu. The typical high spire looks even more pronounced in a shell this large.

## SAVE OUR SNAILS



With only 200 animals left alive, the Far Northern Flax Snail *Placostylus ambagiosus* is close to extinction. These snails live in small patches of native vegetation around the coast of the northern tip of New Zealand.

Flax Snails hide in thick, moist leaf litter during the day and emerge at night to feed upon freshly fallen leaves. As a land-dwelling snail, the Flax Snail has developed a large, heavy shell which serves to protect the animal (70 mm. long). Their shells have a rich red-brown exterior and pink-orange interior; the snail itself is smoke gray with very wrinkled skin. Their large size and longevity (12-18 years) are the keys to the survival of the species. The pool of large adult snails in a population is capable of surviving long dry summers while still continuing to lay its eggs.

*Placostylus* snails are hermaphroditic, i.e. possess both female and male sex organs, and are also believed to be capable of either self-fertilization or sperm storage for up to three years. These are all adaptations to ensure that breeding continues even though the number of mating encounters between snails may be low. This may be due to a small population size and the short distances snails travel in the space of a year (2-3 meters).

The breeding season lasts for a short period during the summer months. The eggs are limy-shelled and are about pea-size. They are laid in clutches of ten to seventy eggs and are buried in loose soil under thick leaf litter. The eggs hatch directly into juvenile snails.

Natural predators are few, but introduced animals, namely pigs, rats, mice, thrushes and blackbirds are today largely responsible for the decline in snail numbers. The clearing of coastal bush for farmland and the introduction of cattle has severely reduced areas suitable for snail habitation.

The long-term survival of this fascinating animal relies heavily on implementing conservation measures now, before snail numbers slip further downhill. Conservation could easily be accomplished by planting trees, controlling predators and fencing out stock from the snail colonies. This would cost relatively little compared to most conservation projects.

You can help save these snails from extinction by buying a "Save Our Snails" sticker. Proceeds from the sale of stickers will go towards replanting and fencing areas where the snails live. In the past, stock have eaten the natural vegetation; the shortage of food plants is now limiting snail numbers. Hopefully supplementary plantings will help save these animals from extinction.

For further information contact Mr. A. Jeffs, Save Our Snails Society, c/o Zoology Dept., University of Auckland, Private Bag, Auckland, New Zealand.

**Black's Island** in St. Joe Bay, Florida, offers group facilities for a shelling expedition. St. Joe Bay boasts some 95 species of mollusks, and nearby Cape San Blas offers many more. Interested? Write Black's Island, P.O. Box 945, Port St. Joe, FL 32445. Black's Island also offers a sea camp for children, Camp Nautilus.

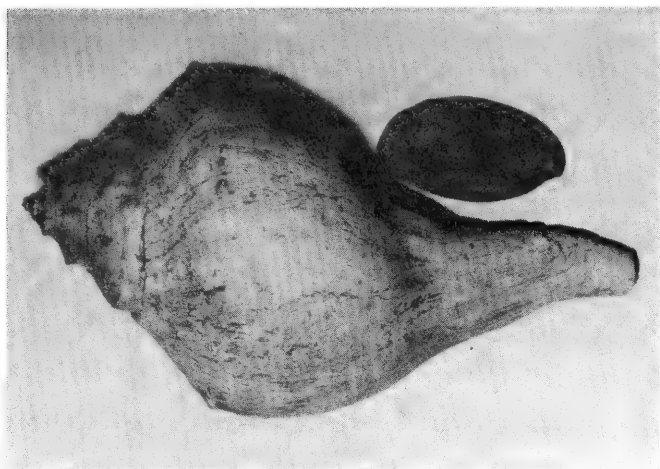


Photo by John Timmerman

**Figure 1**  
*Busycon carica*, 189mm, from Bristol, Rhode Island.

## BUSYCONFUSION

When John Timmerman submitted the pen-and-ink drawing of *Busycon carica* (Gmelin, 1791) on the cover, we sought a bit of information on the species. In our search, we learned a lot we didn't know about Whelks, and turned up an intriguing species puzzle. And we learned that the puzzle doesn't stop at *Busycon carica*, but extends throughout the *Busyconinae*.

The following article expounds that puzzle, with help from two *Busyconophiles*, Alta Van Landingham and John Timmerman. Alta has puzzled over Whelks for sixteen years, aiding in research on them, collecting them, raising them (see p. 8) from egg to adult. John is also a devoted Whelk collector, artist and photographer. We hope their experiences and observations will encourage other readers to contribute their own Whelk wisdom on the chance of casting further light on the fascinating animals.

Anyone who has collected shells in the southeastern United States has at one time or another found a Whelk, dead shell battered among beach drift or living predator stalking the flats. We take them for granted, most of us; we check for albinos or for sinistral or dextral oddities among the multitude, but for the most part Whelks became part of the landscape. They are so abundant in some areas that Georgia is on the verge of adopting *Busycon carica* as state shell.

This abundance should alert us to the fact that the subfamily *Busyconinae* is a success story, a purely American success story since they only occur in Eastern North America from Cape Cod to Yucatan. The small *Busyconinae* subfamily belongs to the *Melongenidae* according to most authorities, and is undoubtedly an American evolutionary offshoot of that more cosmopolitan family. There are, perhaps, eight species of *Busyconinae* in two genera.

These species seem quite distinct when one examines a specimen or photo of each. The Lightning Whelk is left handed, the Channeled Whelk is right handed, the Pear Whelk is thinner shelled and finely spirally ribbed, and so on. But when we really examine our distinctions in terms of actual Whelk populations, they become a matter of degree, and quickly begin to blur.

Starting in Cape Cod and extending to the Cape Canaveral area, the Knobbed Whelk prowls, heavy and dextral, usually spiny. It looks at times like a mirror image of the Lightning Whelk, *Busycon contrarium* (Conrad, 1840) with which it coexists from New Jersey to Canaveral. The Lightning Whelk extends on around the tip of Florida and up through the Gulf States.

At the end of its range, we encounter, offshore in Texas, the Candelabra Whelk, *Busycon candelabrum* (Lamarck, 1816),

looking very much like a young, dextral *B. contrarium*, slim, elongate, with some spiral lirae at the upper notch. (But *B. contrarium* too may have spiral lirae in the aperture. So may other Whelk species.) The Candelabra extends to Yucatan, meeting in the Bay of Campeche perhaps the loveliest of *Busycon* species. This is the elegant, often pinkish Turnip Whelk, *Busycon coarctatum* (Sowerby, 1825). Its spire whorls are compressed to give it a turnip shape, and its siphonal canal is slim and arrow-straight, but the common Whelk characteristics are there.

Flip the coin that is *B. coarctatum* and we get the Perverse Whelk, *Busycon perversum* (Linne, 1758). Sinistral, heavy, twisted, with a massive ridge encircling the upper siphonal canal, this polished shell finds beauty in deformity. It too inhabits the Bay of Campeche and ranges northward to Louisiana, represented in the northern part of its range by subspecies *puleyi* (Hollister, 1958), reported to be slim, lacking the thick ridge, having a turreted spire.

How can one tell a *B. perversum puleyi* from a high-spined Lightning Whelk? Or a rare dextral Lightning Whelk from a spinose Knobbed Whelk? Perhaps one can't, at least not all the time. And we can't resist adding to this confusion the thought that the Turnip Whelk isn't so very different from the Pear Whelk, *Busycotypis spiratum* (Lamarck, 1816), and that some Pear Whelks have a shape very like the Channeled Whelk, *Busycotypis canaliculatum* (Linne, 1758), even to the channeled suture.

Examination of the fossil record only expands our puzzle. Are we looking at a single species, perhaps, with great variation in form? Surely not. More likely, it's evolution in action that we're seeing. One clue to a possible answer lies with the *Busycon* veliger, an embryonic larval stage mollusks pass through. Most veligers swim, enabling species to colonize new areas rapidly and to mix genetic pools, keeping the species relatively homogeneous. The *Busycon* veliger, Alta Van Landingham reports, has passed its swimming stage before it hatches. Newly hatched whelks crawl from birth, she tell us. This slows dispersal and provides an impediment to genetic mixing.



Photo by John Timmerman

**Figure 2**  
*Busycon carica*, 242mm left; 232mm right; near Cape Lookout, North Carolina.

Another possible clue is the geological history of the area; it alternately rose from the water and was submerged again in the past 60 million years, all during the evolution and dispersal of the *Busycon* species. The changing coast line produced many isolated bays suited to colonization. Eggs laid by a single female on a floating log might, by chance, enter such a bay and produce a colony. That same chance might or might not bring eggs from another *Busycon* (fresh genetic material) to that bay to interbreed.

In such a way, many isolated forms may have developed, then moved slowly along the coastline to meet other isolated forms and to interbreed or not, depending upon how different they had become during their isolation. If they could not interbreed, they had become two new species. If they had not changed sufficiently to prohibit interbreeding, back crosses would happen, producing occasional oddities or a mixed population.

The relatively new scientific tool of tissue typing may in time give us further clues to our puzzle by defining the capacity of the *Busycon* for genetic change and delineating relationships among the species. But in the meantime, we have Busyconfusion.

Let's have a closer look at our cover shell, *B. carica*, the Knobbed Whelk, and its variations. The species appears on the south shore of Cape Cod. In the northern part of its range the Knobbed Whelk is sometimes knobless, a rounded shell with very low bumps, almost undulations on the whorl shoulders — see John Timmerman's specimen (Fig. 1) from Rhode Island. He reports that other specimens in the same area had larger knobs, and were more typical. Alta says her northernmost specimens are from New Jersey and are similar to Fig. 1. Offshore in southern New Jersey, a population of sinistral *carica* is reported.

Figure 2 illustrates what many consider to be typical *carica*. With sharp knobs, a rounded body whorl, and a graceful, curved columella, its aperture is often brick red. That intensity of color is evident even in this black and white photo. John collected them at Cape Lookout, North Carolina. Alta, a native of the Outer Banks area, says this form is typical of the Cape Lookout area, that the shells are massive and heavy, like these large specimens, even as juveniles, and that the deep aperture coloration is common.

Figure 3 shows two dead-collected shells John found at Ocracoke, N.C. They are a little wider across the aperture, which is much lighter in color and boasts spiral lirae. The specimen on the left has a low ridge above the shoulder knob, which John reports is strong enough in some specimens to form a secondary row of knobs. He mentions a double-knobbed variant from Long Beach, N.C. also. On the subject of knobs, Alta says there are: "*Busycon carica* with large pointed knobs, some with no knobs, some with double and triple rows of knobs . . . I have one . . . about eight inches, with the first major whorl having one row of knobs; the second row, two rows of knobs; the third, three rows of knobs. Makes one wonder if the fourth whorl would have had four rows."

The shells in Figure 4 illustrate a surprising variant John found at Ossabaw Island, Georgia. The shell on the right has a rather high spire compared with most *carica*. But the shell on the left is so high-spired that it barely resembles a *Busycon*. John says there is no sign of mechanical injury to account for this unusual form.

Starting in North Carolina and ranging south to about Cape

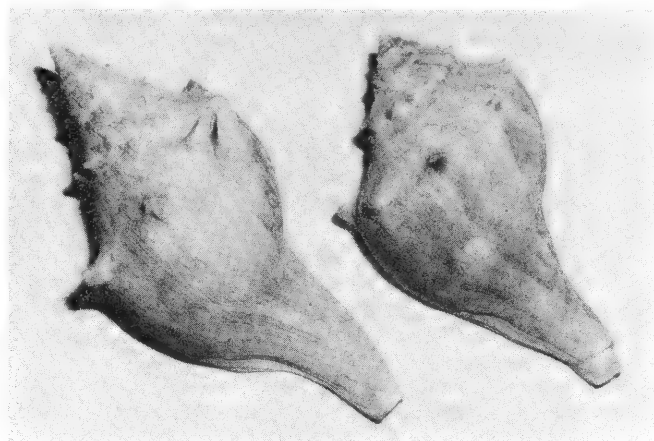


Photo by John Timmerman

**Figure 4**  
*Busycon carica*, 149mm left, 126mm right; Ossabaw Island, Georgia.

Canaveral is the controversial variant or subspecies or species known as Kiener's Whelk, *Busycon carica eliceans* (Montfort, 1810). This shell is very unlike typical *carica* and its forms (although it often has a brick orange aperture). It has very elongated shoulder knobs, usually pointing outward rather than upward. But the most obvious difference is the distortion in shape caused by a low, heavy ridge running around the upper siphonal canal, which thickens the outline and produces an extension of the outer lip toward the anterior end. This ridge is amazingly similar to the one present on the sinistral Perverse Whelk from the southern and western Gulf of Mexico. So similar does this ridge make the two species appear that many believe them to be right- and left-handed versions of the same species.

Interestingly enough, John collected the *Busycon carica eliceans* on the cover at Ossabaw Island, Georgia, the same area where he discovered the high-spired *Busycon carica* variant. Obviously, there's some overlapping going on. Two subspecies aren't supposed to inhabit the same geographical locality. And Alta insists that, in all the hundreds of egg capsules she has opened, she's never found one which contained even one *eliceans*-type shell.

But there is variation within *eliceans* too. Specimens examined from Hilton Head, South Carolina were heavy, and darkly marked, much like dark Lightning Whelks, with a deep brick-orange aperture. *B. carica eliceans* from the southern end of the range at Cape Canaveral, Florida, were less heavy, more delicate, and the shells were pale with a yellowish aperture. Concerning aperture color, Alta says, "I have collected live specimens with . . . dark red apertures, orange, yellow, purple, white, and many colors in between."

She also reports that, in spite of the great differences between *eliceans* and normal *carica*, the animals appear identical. She also counters any suggestion that *carica* and *contrarium* might overlap with the statement, "I have never seen a *B. carica* with an animal other than gray in color, and I have never seen a *B. contrarium* with an animal other than velvety black."

Are there other *Busycon carica* forms hidden in that long, much indented coastline that is the Eastern Seaboard? Is there a record of *carica* × *eliceans* crosses? Can these two subspecies interbreed? Are there other instances of such variation in other species within the *Busycon* maze? We'd like to hear about them, whether they clear up or add to the Busyconfusion.

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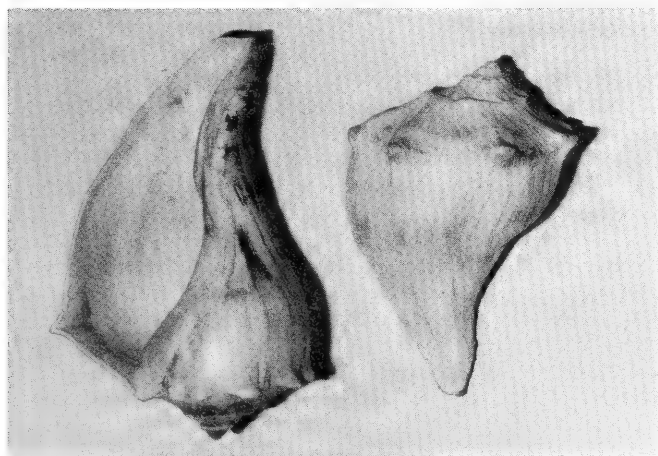


Photo by John Timmerman

**Figure 3**  
*Busycon carica*, 196mm left, 217mm right; Ocracoke Island, North Carolina.



## SIX YEARS OF LIVING WITH *BUSYCON CARICA*

by Alta Van Landingham

So many times, while shell collecting where I lived on Ocracoke Island, North Carolina, I found the long *Busycon* egg cases filled with still unhatched babies, and dreamed of watching them hatch and grow. But I always put the egg cases back in the water until that day in December, 1974.

Since the egg case was completely intact, I saw no reason why it couldn't survive in a bucket of salt water until I could get an aquarium set up. I purchased a 30 gallon tank, complete with under-gravel filter system, pump, hood, light and heater. The lady in the aquarium shop was ready to sell me an instant ocean mix and twenty pounds of commercial gravel, but I said no, I wanted to use natural ocean water and gravel from my beach. She was horrified and tried to explain why I couldn't do this. I had already decided to do it my own way, so I just smiled and turned a deaf ear.

Back to the egg case. Van and I set up the aquarium and it looked beautiful. In went the egg case, along with some other very small shells I had found live on the beach. The egg case was the main attraction, as far as I was concerned, and I watched it almost twenty-four hours a day. Finally, on December 26, the babies started to emerge. We learned later that it may have been a premature hatching due to the heated water. Each capsule on the string had a tiny round hole covered by a thin membrane. The babies punctured this membrane and came crawling out. It was fascinating.

The hatching continued over a period of two weeks, until finally, in January, the remaining capsules started growing mold. There were still live babies in them so I helped nature along. I cut open the remaining capsules and freed the babies. I discovered that each capsule housed at least fifty babies, some as many as a hundred. A few of the shells were empty, having been in the capsule for the purpose of feeding the others.

So now I had literally thousands of whelks! What should I feed them? I started by giving them bits of shrimp cut up very finely. They seemed to like this. Then I noticed a bit of cannibalism going on, and while I didn't really like it, I assumed it was "Nature."

Meanwhile, I found a beautiful Pen Shell about three inches long. My baby Whelks were still pinhead size, so I thought the Pen Shell would be safe with them. The Pen survived about twelve hours. The baby Whelks used team work to open its shell and devour it. There were hundreds of the Whelks, completely covering the shell. After seeing this amazing feat, I decided the voracious babies would be able to handle live Coquinas, *Donax variabilis*, which they did. For several years, until they became much larger, Coquinas were the staple food for all of them — and for many other live shells I had in aquariums. After about two years, they were able to open scallops, small clams, oysters and any number of other small bivalves.

By the time the Whelks were about two years old, we decided to try some experiments with them. I sent many of them to a friend in Florida to try to raise in her aquariums. She didn't seem to have much luck with them, and I feel that perhaps there wasn't enough live food. Others went to friends in Virginia who used Instant Ocean Mix. After a year, we compared the shells, and while the ones in the Instant Ocean Mix had grown, their shells appeared thin and less colorful than mine which were raised in real ocean water.

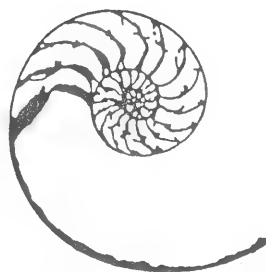
Others were fed more often, and the result of that was many growth lines in the lip of the shell. The ones which were fed moderately had better looking shells! (Just like people! If you overeat, you have some lines you don't need).

Some shells were kept in a heated aquarium and others left in cold water. This did not seem to make any difference in growth rate, color or any other factor. After two years, they appeared the same.

Of course, after all this time, we had gone to larger aquariums. By the time the Whelks were six months old, we had separated them into different aquariums. (We went from one thirty gallon tank to thirty-five different salt water aquariums, and up to 250 gallons during the peak of our shell experiments.) At the very end of the project, we still had about fifty of the original Whelks in very large tanks.

After six years, the females were seven to eight inches long and the males were four to five inches. Just after the beginning of the sixth year, legislation was passed which prohibited driving on the beach. The project had gotten so large that I could not handle the quantities of food and water I needed to keep the Whelks properly without use of my four wheel drive, so, much to my sorrow, I had to abandon my project.

I must say that I think living on Ocracoke Island, North Carolina, on the Outer Banks, with access to clean ocean water and gravel was responsible for the success of my experiments. And, although I tried to make the environment as natural as possible, I suspect the shells would have grown faster if they were in the ocean. On the other hand, perhaps I fed them so well in the enclosed environment that they grew faster for me. Who knows?



**DID YOU KNOW . . .** There's a **Chambered Nautilus Newsletter?** A fascinating fact we learned from the October issue of the Newsletter: scientists believe that the Chambered Nautilus, far from being a living fossil in danger of extinction, may actually be on the brink of a new species radiation of nautiloids! Since 1974, the C.N.N. has served as a clearinghouse for information on

these enigmatic creatures, fostering collaboration among shell collectors, scientists and anyone else interested in Nautilus. If you are in one or more of those categories, send contributions, inquiries or requests to be added to the mailing list to the editors, Paul N. Bond and Bruce Saunders, Dept. of Geology, Bryn Mawr College, Bryn Mawr, PA 19010. They request a voluntary \$5.00 donation per year to cover mailing costs.

## NEW FISHY HOME FOR MOLLUSKS

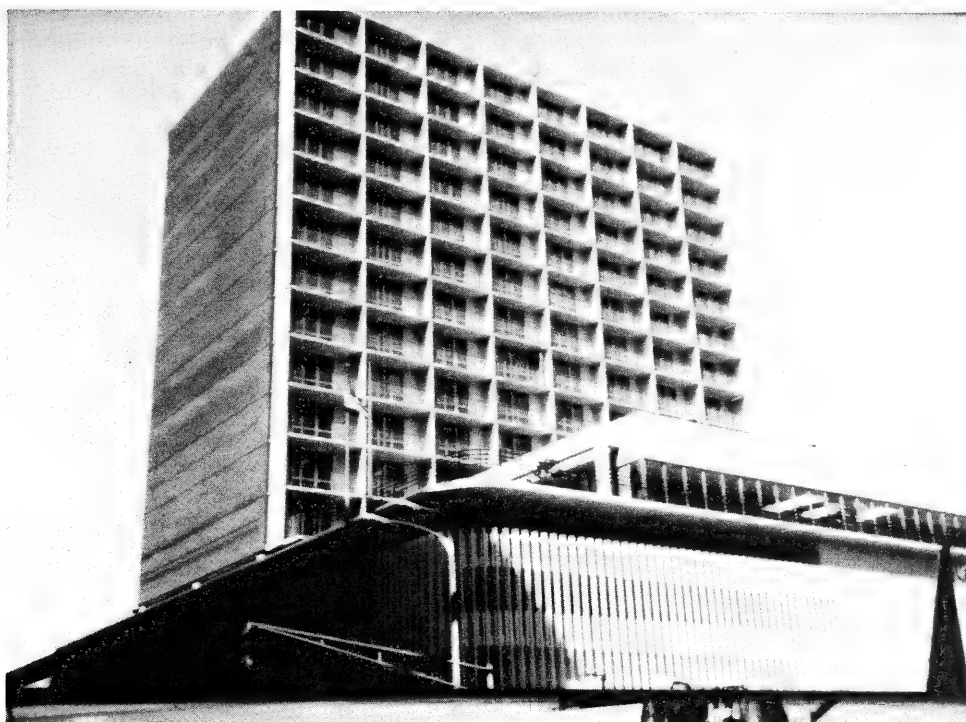
by R. Tucker Abbott

Rarely does one discover an entirely new association between mollusks and members of another phylum, much less a vertebrate; but recently a young biology couple, while scuba diving in Okinawa, found a dorid nudibranch seaslug that attaches itself to the fins of a goby fish.

The Datehaze Goby lives in the sandy burrows made by the pistol or snapping shrimp. In six separate cases, a single, blackish, 1/3-inch-long dorid was found firmly attached to the dorsal fin of the three-inch goby. The nudibranch can also survive detached from its host.

Dorids normally feed on sponges, small crustaceans, hydroids or the eggs of other sea creatures. What this strange species eats is still a mystery. And why should it be attached to this kind of fish? Some related gobies nibble off parasites from other fish. These "cleaner fish" have a black stripe. Our host goby, *Amblyeleotris*, does not, but the long, black dorid attached to the dorsal fin may give a camouflaged effect similar to that of the cleaner fish.

Ernest and Lucy Williams made 39 shallow-water SCUBA dives near the Sesoko Marine Science Center on N.W. Okinawa in 1985. They illustrated their unique finds in the journal *Venus*, vol. 45, pp. 210-211. Can there be similar cases of such association in Florida and the West Indies?



## COA CONVENTION '87: MEET ME IN ST. LOUIS

Enjoy the Spirit of St. Louis and the best in shells by attending the 15th Anniversary Conchologists of America Convention in downtown St. Louis, Missouri. The Convention, centered at Days Inn at the Arch, starts at 2 p.m. on Tuesday, June 23, and runs through Saturday, June 27. Be there at the start and everyday throughout for the door prizes. And what door prizes! Shells, shell books, related items! And then, on Friday morning, your hosts, the St. Louis Shell Club, will give away a *Lambis violacea*. Tuesday evening will bring a party: extensive hors d'oeuvres and wine and soda, hosted by the St. Louis Club.

Tuesday afternoon, all day Wednesday, and Thursday morning will feature spectacular programs on shells and shelling. How would you like to learn how to collect your very own Glory of the Seas Cone or Golden Cowry in shallow water? Or experience the wonders of shelling Jamaica, Indonesia, the Baja and other exotic shores? If you don't know about the Midwestern shell fauna, we have a program we guarantee you'll enjoy. We're especially pleased that Twila Bratcher, co-author of the new *Terebra* book, has agreed to talk on that large and interesting family. A time will also be set aside for club members to buy or exchange your pins, T-shirts and other club items with other COA members.

Wednesday evening is the AUCTION! Well-known shell dealer Marty Gill will serve as Auctioneer, offering shells, shell books and related items from inexpensive to rare. There will also be two silent auctions during the convention. All auction proceeds go directly to COA for their scholarship, publication and award programs. Thursday evening is a pleasant Dinner Cruise aboard the paddlewheeler Huck Finn. Transportation will be provided to the riverfront under the Gateway Arch for this 2½ hour cruise on the "Mighty Mississippi".

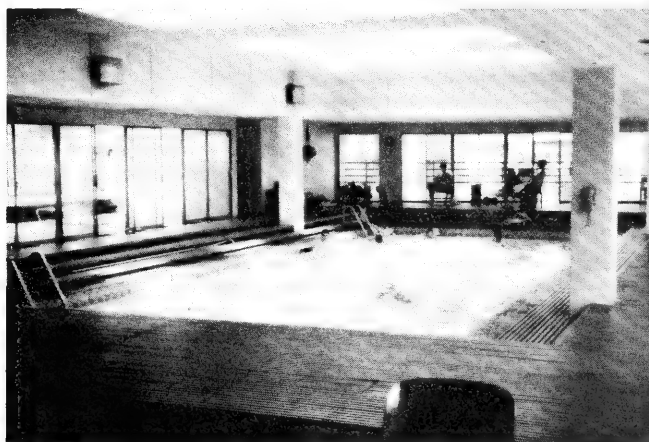
Thursday afternoon and Saturday afternoon are free times to explore downtown shopping, museums and other attractions. A guided walking tour is available Thursday afternoon, including a ride to the top of the Arch and a tour of the Museum of Western Expansion. The Arch is just one long city block from the hotel. Saturday afternoon a bus will be available to show you some of the highlights of St. Louis, with stops at the Missouri Botanical

Gardens with its famous Climatron greenhouse, extensive rose gardens (in June!) and the largest Japanese garden in North America. You'll also have time to visit Union Station, the largest railroad yard in the world, converted to a dining and shopping experience you should enjoy.

Saturday evening is the entertainment highlight of the Convention, with a super banquet, a noted guest speaker, and maybe a surprise or two.

What? No shells to find? How about one of the largest arrays of shell dealers in the world, all in one room? It's the Bourse, of course! Dealers from across the United States and several foreign nations will be there to show their wares. Friday after the business meeting, Friday evening and Saturday morning are reserved exclusively for the Bourse. You'll find shells from the inexpensive to the fabulously rare, AND you'll have a chance to meet the dealers, ask those questions, or just "talk shells."

A hotel registration card is attached. Send reservations directly to the hotel prior to May 23 to guarantee rates. Convention rates are available from Sunday, June 21 through Monday, June 29. There is a small parking fee. For those flying in, limo service from





the airport takes about 20 minutes and costs \$6.00. For those driving, Interstate 44, 55, 64, and 70 lead you right to downtown.

Registration fee for the Convention is \$25.00 (\$30.00 after June 1st). The fee enables you to attend all sessions of the Convention, the reception Tuesday evening, and continental breakfast Wednesday, Thursday and Friday mornings. Also, you must be registered and present to win door prizes given throughout the Convention. No registration fee is required to attend the Auction or Bourse. The Huck Finn Dinner Cruise, with transportation to and from the hotel, is \$24.00 per person. The banquet is \$25.00. A special Early Bird (St. Louis Cardinal Redbird, of course) rate is available for those attending the Convention, the Banquet and the Dinner Cruise: register for all three before May 10 at a cost of \$69.00 per person, a savings of \$5.00 per person. Registration forms and St. Louis attraction information follow.

As always, donations of shells, corals, books, material or shell items are welcome for the auction or door prizes. Contact LaVern Niere with items you may wish to donate. We extend a warm invitation to the entire shell world by saying, "Meet Me in St. Louis."

#### FOR FURTHER INFORMATION, CONTACT:

Alan Gettleman	LaVern Niere
4045 Central Lane	50 DeVore Drive
Granite City, IL 62040	Ellisville, MO 63011
(618) 931-7374	

## WHAT TO SEE AND DO IN OL' ST. LOU'

St. Louis has always been a city on the move. From Lewis and Clark to the riverboat packets, St. Louis has been known as the Gateway to the West. During this century from Charles Lindbergh to the builders of aircraft and space capsules, St. Louis has been a leader in technology. During your stay, you'll see signs of St. Louis' proud 223 year history, as well as the best of the new. See a few of our historic or cultural attractions. And from the city that gave the world the ice cream cone, iced tea, the first hot dog and toasted ravioli, you're in for a culinary treat here also. A few things you may wish to do while you're here, with distances from the Days Inn at the Arch:

- **Gateway Arch and Museum of Westward Expansion** — Nation's tallest manmade monument; ride tram to top of Arch for a great view. (1 long block)

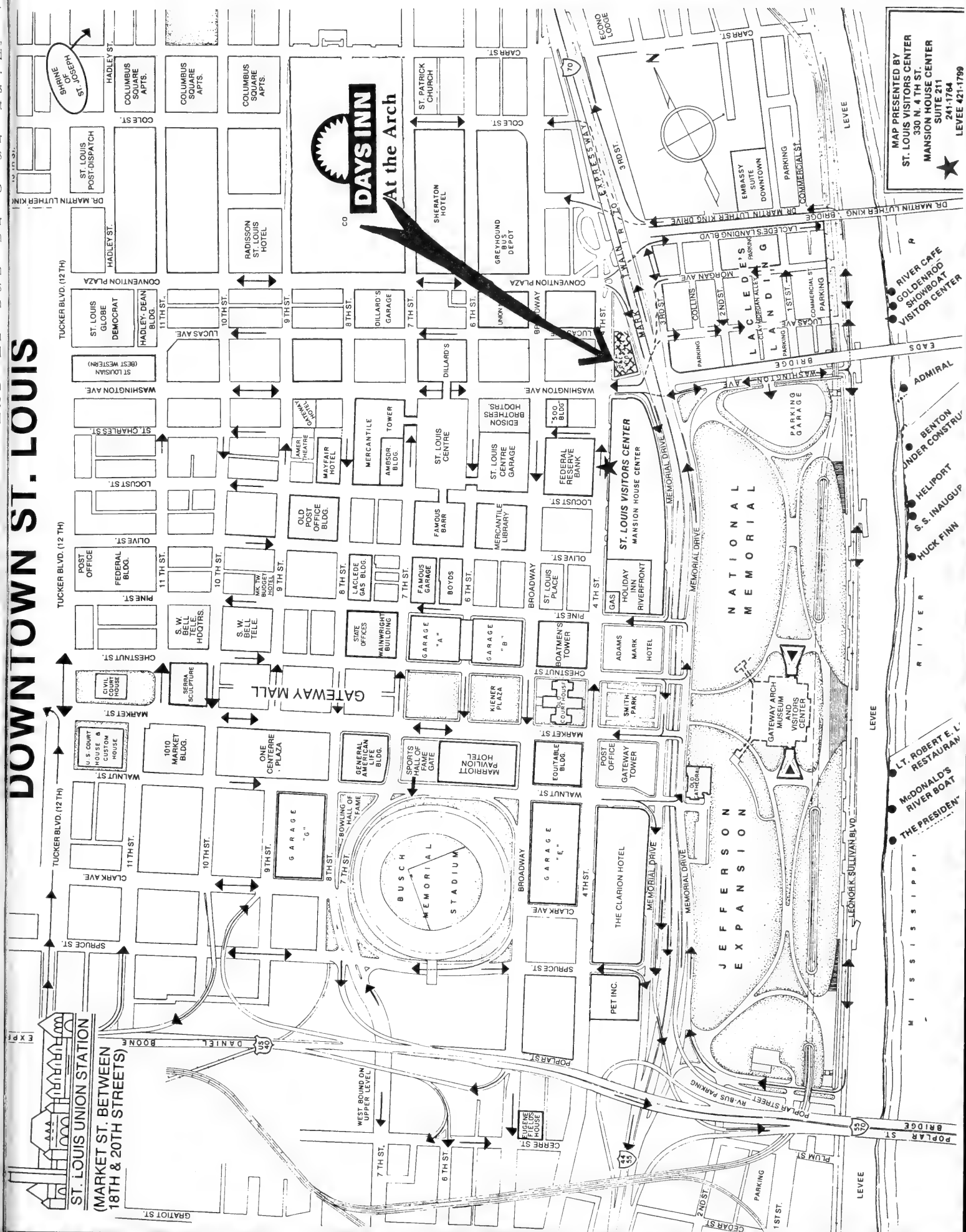
- **Laclede's Landing** — A nine square block area on the river, renovated old brick buildings, cobblestone streets and gaslights. Gift shops, wax museum, dental museum. Many restaurants: don't miss Spaghetti Factory if you like pasta; it's great and moderately priced. Many night spots. (Across street from hotel)
- **St. Louis Center** — Opened in 1985, a four story long, four level indoor mall, the largest U.S. urban mall, with Dillard's and May Department Stores. (2 blocks)
- **Union Market** — Largest rail yard in nation converted to shops and dining. (1 block)
- **Admiral** — On the riverfront by Eads Bridge. Renovated river day cruiser not refurbished with shops and dining. Open in March. (2 blocks)
- **Lt. Robert E. Lee** — Maybe not the same steamboat that won that famous race with the Natchez to St. Louis in 1870, this riverfront restaurant is an authentic 1909 steam packet with great seafood. (about 2 blocks)
- **McDonald's and Burger King** — Hardly attractions unless you want to say you've dined(?) on the only floating fast food restaurants. On the river. (about 2 blocks)
- **Huck Finn** — Learn why St. Louis makes claim to the origin of the term jazz by joining us on Thursday evening for a 2 hour dinner cruise. Transportation provided to and from hotel with dinner reservations.



- **Anheuser-Busch Brewery** — See the home of the nation's largest brewer with free tours. (about 2 miles or 15 minutes by car)
- **Grant's Farm** — See the log cabin home of President Ulysses S. Grant when he lived in St. Louis County, small zoo, home of Anheuser-Busch's Clydesdales. Free, but reservations are required. (1 hour by car)
- **Six Flags over Mid America** — large theme park. (one hour by car from downtown)
- **McDonnell Douglas Aircraft Company Prologue Room** — See the company that made the Mercury space flight capsules, and one of the nation's largest aircraft manufacturers. (25 miles, 1 hour by car)
- **Tony's Restaurant** — The only five star Italian Restaurant in America. Moderately expensive to expensive and absolutely no reservations accepted. (3 blocks)
- **St. Louis Zoo** — One of the world class zoos with more than 2,000 mammals, birds and reptiles. Free admission. (5 miles, about 30 minutes by car)
- **Nation Museum of Transport** — See trains, experimental vehicles, automobiles. (20 miles, 70 minutes by car)
- **National Sports Hall of Fame and National Bowling Hall of Fame** — Two separate museums adjacent to Busch Stadium. (9 blocks)

Most downtown attractions can be reached by a 25 cent shuttle.

2000





# Conchologists of America

## \*\*\*\* REGISTRATION FORM \*\*\*\*

15th Anniversary COA Convention — June 23 through 27, 1987

Days Inn at the Arch Hotel, St. Louis, Missouri

NAME \_\_\_\_\_ NUMBER IN PARTY \_\_\_\_\_

ADDRESS \_\_\_\_\_ ARRIVING (DAY) \_\_\_\_\_

The registration fee is required of everyone wishing to attend the Reception, program meeting sessions with continental breakfasts, as well as for all dealers participating in the Bourse.

No registration fee is required to attend Auction, Dealers Bourse, Dinner Cruise, Sightseeing Trips or the Banquet.

Please specify names and city (plus your home shell club, if desired) for the convention badge:

REGISTRATION: (\$25 per person; \$30 after June 1) ..... \$ \_\_\_\_\_

BANQUET TICKETS: (Saturday, June 27) (\$25 per person) ..... \$ \_\_\_\_\_

DINNER CRUISE: (Thursday, June 25) 2½ hour dinner cruise on paddlewheeler HUCK FINN on the Mississippi River, Prime Rib dinner, two drinks, transportation to and from hotel (\$24 per person) ..... \$ \_\_\_\_\_

\*\*EARLY BIRD REGISTRATION\*\* (prior to May 10) Registration, Saturday night banquet ticket, plus Thursday evening HUCK FINN dinner cruise, cost for all three \$69; a savings of \$5 per person from the regular \$74 fee ... \$ \_\_\_\_\_

SIGHTSEEING TRIPS: Escorted walking tour to St. Louis Arch (one city block), Museum of Westward Expansion, tram ride to top of Arch, riverfront attractions Thursday, June 25, 1-5 p.m. (\$4 per person) ..... \$ \_\_\_\_\_

Tour of City with stops at Missouri Botanical Garden and shopping stop at Union Station, a restored shopping mall. Saturday afternoon, June 27, 1-5 p.m. (\$6 per person) ..... \$ \_\_\_\_\_

DEALERS BOURSE: (Tables, covered 30" x 96", can reserve up to 5 tables at \$40 per table, with additional tables subject to availability. Limited to COA member dealers who will be sent a contract. .... \$ \_\_\_\_\_

TOTAL ENCLOSED: Please make checks payable to: COA CONVENTION ..... \$ \_\_\_\_\_

MAIL TO: Byron Thompson, Convention Treasurer, 5253 Parker Ave., St. Louis, MO 63139

CUT HERE



- 333 Washington Avenue
- St. Louis, Missouri 63102
- (314) 621-7900

### CONCHOLOGISTS OF AMERICA CONVENTION

June 23-27, 1987

Arrival Date \_\_\_\_\_

Departure \_\_\_\_\_

Reservations received after \_\_\_\_\_ will be confirmed on space availability

Name \_\_\_\_\_

6:00 P.M. ☐

Address \_\_\_\_\_

GUARANTEED ☐

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Check in time after 2:00 p.m.

Sharing room with \_\_\_\_\_ Phone ( ) \_\_\_\_\_

Check out time is 1:00 p.m.

Please indicate type of accommodation desired, if rate and room request is not available, accommodation will be assigned at the next available rate.

Credit Card No. \_\_\_\_\_

For information regarding hospitality suites, please contact hotel directly.

Expiration Date \_\_\_\_\_

#### DBL/DBL

#### Standard King

##### Rates

##### Rates

One Person ☐ \$52.00 + tax

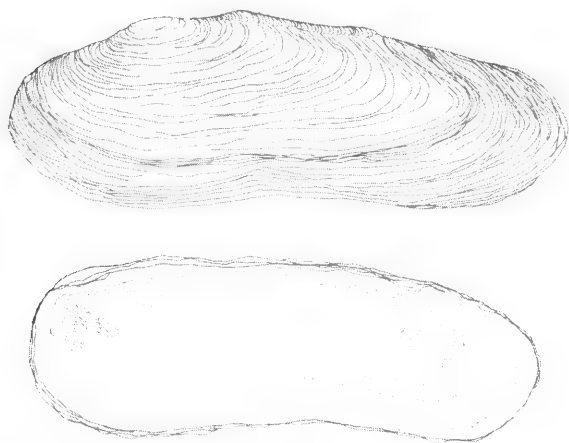
One Person ☐ \_\_\_\_\_

Two People ☐ \$52.00 + tax

Two People ☐ \_\_\_\_\_

All room rates are subject to applicable tax.  
Same rate for 3-4 people in one room.

1st Nights Deposit required



*Cumberlandia monodonta* (Say, 1829)

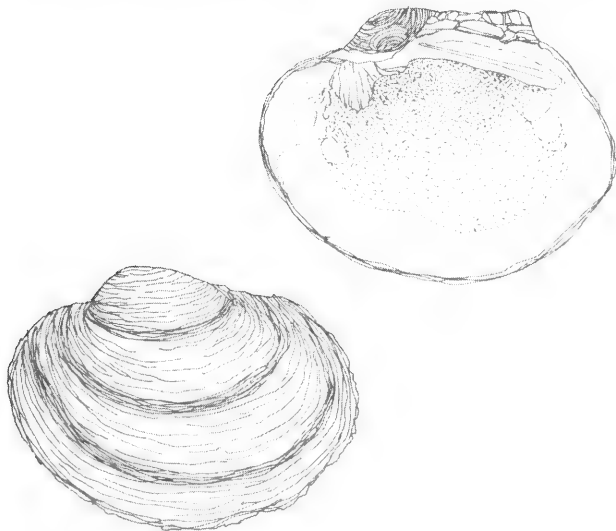
## NAIADS: MIDWESTERN MOLLUSCAN BONUS

by Alan Gettleman

We hope you can take time on the way to COA to view our midwestern shells — you'll be surprised how attractive and interesting they are. Best known of the numerous shell fauna of the St. Louis area are the naiad freshwater bivalves of the Unionidae and Margaritiferidae. Their shells may be collected in most streams and lakes except the Missouri River, and the Mississippi River from St. Louis southward. The Ozark streams, the Meramec, St. Francois, and White Rivers offer occasional good shelling. The Illinois River and other Illinois streams have abundant shells; however, with few shallow riffle areas, collecting access is difficult.

The Unionidae are parasitic during their veliger stage and require a specific host fish to survive. When the host fish disappears from the area, the mollusks soon die off.

There are four Unionid shells native to this area which are quite rare and now on the endangered species list. Specimens of these shells will be on display at the convention. *Lampsilis orbiculata* (Hildreth, 1928) ranges from the lower Meramec to the Ohio River and east. The similar *Lampsilis higginsii* (Lea, 1857) is endemic only to the Mississippi River above St. Louis. Shells of both are sexually dimorphic. The rarest shell is *Proptera capax* (Say, 1829), known only in three small localities in the nation. Oc-



*Lampsilis orbiculata* (Hildreth, 1828)

asionally a sub-fossil shell will be found on the upper Mississippi. *Leptodea leptodon* (Rafinesque, 1820) is known from Illinois by a single specimen on the Upper Mississippi but is still living in the Meramec River.

Other rare shells are the Spectacle Case *Cumberlandia monodonta* (Say, 1829) and the Western Fan Shell *Cyprogenia aberti* (Conrad, 1850). The Spectacle can be found in the upper Mississippi and Meramec, while the Western Fan Shell ranges from southern Missouri to Kansas and Arkansas.

Other bivalves reflect the colorful names of the 19th Century collectors who took these shells for the pearl button industry: Pistolgrip, Deer's Foot, Heelsplitter, Washboard, Banana Shell, to name a few. Although generally a uniform brown on the outside, the nacre of these shells is unsurpassed by any other group of shells in the world. Hues of pink, purple, salmon, yellow, and gleamy iridescence make them quite showy and collectible. Curiously, pearl button makers used only white nacre shells and dyed the buttons, instead of harvesting the colored nacre shells.

Did you know a large, thriving industry collecting these shells still exists on the Mississippi, Tennessee and Ohio River drainages? Their lustrous mother-of-pearl nacre is exactly the right consistency for the Japanese cultured pearl industry. Every cultured pearl has as its base a midwestern or midsouthern freshwater bivalve. Japanese and Chinese and other freshwater shells were tried without success; the only shell suitable came from the U.S.

*Drawings from Mussels of the Meramec River Basin, Missouri Conservation Commission*

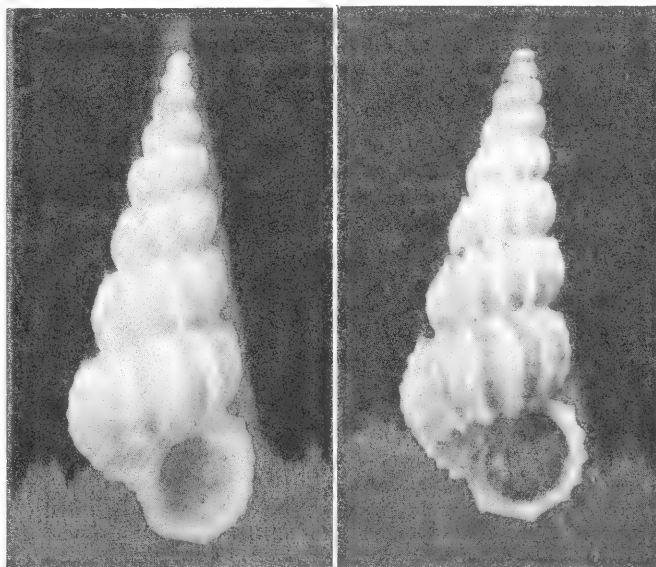
## RESEARCH RESULTS: ONE SPECIES WORLDWIDE?

*Epitonium blainei/zelebori*

by Norman D. Paschall

In July 1953, *Johnsonia* described what was then thought to be a new Epitoniidae, *Epitonium (Boreoscala) blainei* Clench and Turner. This species was described from two specimens. The holotype (MCZ 189246) was collected at Boca Raton, Florida in 1937, and a paratype at Bearcut, Miami, Florida in 1951.

In 1970, I received a live-taken specimen collected off Riviera Beach, Florida, and then in 1973, a lot of four specimens collected at Maldonado, Uruguay, and a single specimen from Guan-



*Photos by Peter Bright*

Left: *Epitonium blainei* Right: *Epitonium zelebori*.

tanamo Bay, Cuba. In 1976, I received another lot of seven specimens, one live taken, from the Texas coast near Matagorda Island. The Florida State Museum has a pair collected on Sanibel Island and a second pair from the Maxwell Smith collection taken in the Falkland Islands. Three more specimens were collected south of Cuba last year, which I recorded at the Broward County Shell Show February 7, 1987, for a total of twenty specimens examined.

I undertook a visual comparative study with specimens of *Epitonium zelebori* (Dunker, 1866). I had data recorded on 47 specimens from New Zealand, eight from Australia and two from Natal, South Africa. My comparison would indicate that these two species are identical, that *Epitonium blainei* Clench and Turner, 1953 and *Epitonium zelebori* (Dunker, 1866) are inseparable.

Thus I find that this is another worldwide *Epitonium* species, and I propose that *Epitonium blainei* be placed in synonymy with *Epitonium zelebori* (Dunker, 1866).

#### References consulted:

- Clench, W. J., and R. D. Turner. 1953. The Genera *Epitonium*, *Opalia* and *Cylindriscula* in the Western Atlantic. *Johnsonia*, No. 32, pp. 361-362, pl. 180.  
Gardner, N. W. 1975. Our Wentletraps. *Poirieria*, V. 8, Pt. 2, pp. 26-30.  
Tryon, G. W. 1887. *Manual of Conchology*. Tryon. V. 9, pl. 15.

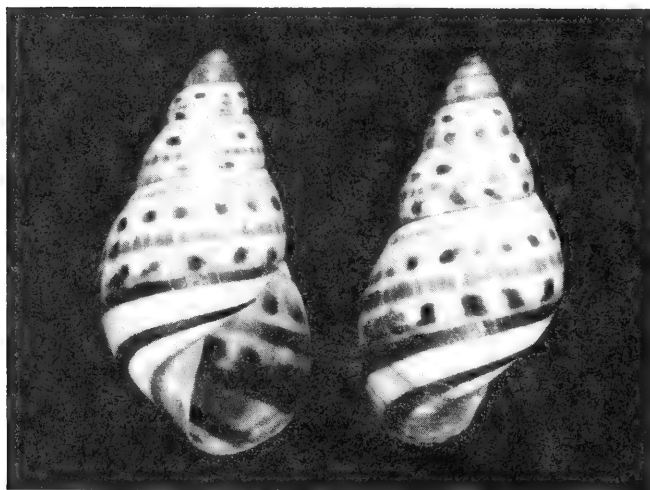


Figure 1  
*Rachis zonulatus* (Pfr., 1846) — Western Java, Indonesia; 12mm.

## AMPHIDROMUS MINUTUS vs. RACHIS ZONULATUS

by Richard L. Goldberg

I recently received a land shell species from both Java and Sumatra identified as *Amphidromus minutus* Djajasmita, 1982. The characteristics of these shells are very unAmphidrome-like, and I was unconvinced of the identity. At a quick glance, they look like juvenile specimens of various species in the subgenus *Syndromus* of the genus *Amphidromus*, but all species in this subgenus are sinistral, and the specimens in question are dextral. After tracking down the original description (TREUBIA, V. 28:5 pp. 169-172, 1982) and seeing that the illustration of the holotype was identical to these specimens, I was sure they were not juvenile shells, and not in the genus *Amphidromus* (Family Camaenidae).

The thin, unexpanded outer lip of these shells, the somewhat open or perforate umbilicus, and the general shape of the shell place it more closely to the species in the Family Enidae. After comparison with a variety of species in this family, it turned out to be identical with *Rachis zonulatus* (L. Pfeiffer, 1846), a member of the Enidae. In older manuscripts the genus is listed as *Rhachis* (Pfeiffer, 1856), which is a synonym of *Rachis* (Albers, 1850).

This species has a distribution from Timor in the Lesser Sunda Islands, Indonesia, north through the southern Philippines. This places the Java and Sumatra localities well within the limits of this species, although I found no reference to it in the literature. It varies considerably from different

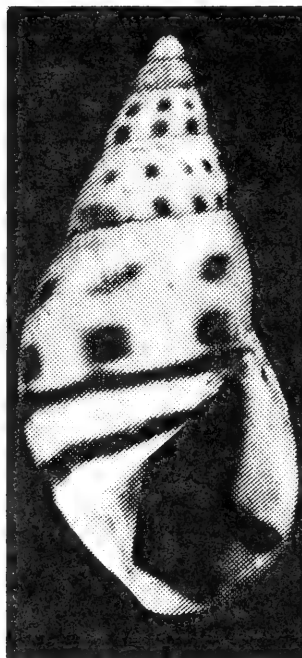


Figure 2

*Rachis zonulatus lombocensis* (Kobelt, 1901) — holotype; reproduced from *Archiv für Molluskenkunde* 116 [1985] (4/6); from Lombok Island.

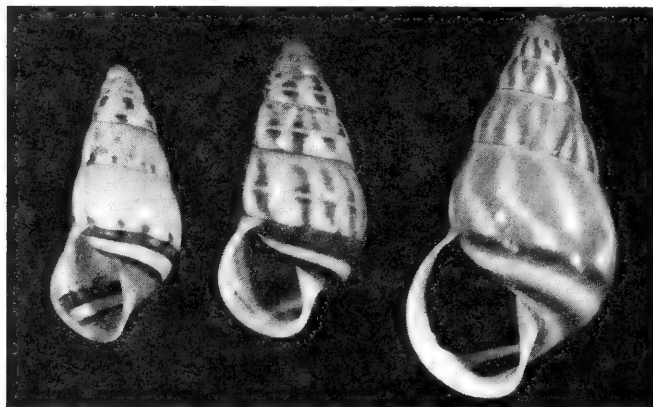


Figure 3

Three species of *Amphidromus* illustrating the similar peripheral band found in *Rachis zonulatus*. From the left, *Amphidromus* (*Syndromus*) *sumatranus* (Martens, 1864) from south Sumatra; *A. (S.) porcellaneus* (Mousson, 1848) from West Java; and *A. (S.) pictus* Fulton, 1896, from northern Borneo.

localities, and a number of subspecies and forms have been described. Figure 1 illustrates the specimens of *Rachis zonulatus* from Java and Sumatra, and probably represents just another of the varied forms of this species. They measure 12mm in length. The white band below the periphery bordered by two black bands is characteristic of this species and mimics a number of the smaller *Amphidromus* species in the subgenus *Syndromus* (Figure 3). This form of *Rachis zonulatus* is spotted and banded with brown and red on a cream to white background.

The subspecies from Timor and Sumba Islands was described as *Rachis zonulatus timorensis* (Martens), while a subspecies from Lombok Island was described as *R. z. lombocensis* (Kobelt) (Figure 2). It probably would be prudent to compare the soft parts of the *Enid* species with that of similar *Amphidromus* species to see how close they actually are. I am quite confident though that *Amphidromus minutus* can be considered a synonym of *Rachis zonulatus*.

## SOME SPECIFICS ON SPECIES

by George Karleskint, Jr.

All collectors at one time or another puzzle over the problem of species. Although we collect different species of shells, we are not always sure what it is we are collecting. Obviously a species should differ from its close relatives by one or more specific and recognizable characteristics, but, as more new species are named, we find that this is not always the case.

If we pose the question, "What is a species?" we find that the answer will differ depending upon whom we ask. To a biologist, species are groups of interbreeding natural populations that are reproductively isolated from other such groups, or more succinctly, an isolated gene pool (isolated by reproductive barriers). To a collector, species are different kinds of shells. To a dealer, species are different kinds of shells that can be sold at different prices. The criteria for species differs from group to group, from person to person.

Since we are dealing with living organisms, it is appropriate to follow the biological definition of species. Although the most accurate, this is also the most difficult to employ. We cannot tell whether a specimen we have in our possession will readily breed with another similar specimen simply by examining it, particularly if all we have is the shell, so we find ourselves falling back on the old tried-and-true typological concept of species. The typological approach is mainly morphological (concerned with shape and form). A new species is described, and a "type" specimen is deposited in a museum or other similar institution, so that other specimens can be identified from it by comparison. If other specimens match the characteristics of the type, then they are said to be the same species. If they do not match the type, within reason, then they are considered different species.

The obvious problem with this approach to species is that it does not allow for the variation that occurs in all natural populations. (A certain amount of variation is allowed, but this varies with the researcher and with the amount of population data available. Thus the point at which the species-line is drawn is usually quite subjective.) It is in the application of this concept that we run into trouble, and frequently a great deal of aggravation and frustration as well. Take, for instance, the human species, *Homo sapiens*. Except in the instance of identical twins, there are no two individuals exactly alike. Why must we then expect all other natural populations to be composed of only identical, or close to identical, members?

Let us imagine an expedition from Mars, sent to Earth to gather samples of the animals found here. They might collect a North American Caucasian, an Ubangi from Africa, and an Aborigine from Australia. If they approached classification as most of us do, they would undoubtedly name three different species. If on future collecting trips they brought back more humans, they would find a great deal of difference when compared to the original types; even though there were similarities, many of these new finds would probably end up as new species. We may think that this is a rather silly example, yet this is exactly what happens in the identification of many new molluscan species. We need look no further than the proliferation of Cone species by well known enthusiasts to see a parallel example in mollusks.

The problem is not a simple one, and neither is the solution. Many people working in molluscan taxonomy do not have the training nor the access to resources necessary to identify and name new species. Even among the professionals, there is a sizeable group who are paleontologists rather than biologists. Although they are very adept at making identifications and at deriving relationships from purely morphological information (the fossil record leaves little else to work with), they do not always take into account the natural variability and the capacity for constant change inherent in viable, living populations.

To identify and describe a new species requires a great deal of time and work, not only in researching the available material, but

also in comparing "new" finds with other specimens in study collections (not in books). Too many amateurs, however, want to see their names in print, to have the distinction of authoring a new species or the status of having a shell named after them. In their quest for a kind of immortality, they rush into print with newly identified species which are poorly researched, and which add to the plethora of names already in use for existing species. That is not to say that all of the new species named for collectors are not valid species. Quite the contrary. Many are quite distinct, and are exciting new additions to the list of known mollusks. On careful examination, however, we usually find that these valid new species were carefully researched by qualified biologists (malacologists) associated either with a large museum or an educational institution. Their article was not a brief description published in an amateur or a conchological publication, but instead it was published in a recognized journal and frequently juried (that is, judged by a peer review group before being allowed in print).

Dealers are frequently no better, since many times a new name or variety means a higher price. Then too, many so-called new species are difficult to distinguish from existing species, the locality being the critical difference. This tempts the unethical dealer to simply change a shell's data in order to make it worth more to a potential customer. If dealers were more reluctant to adopt new species, especially those that seem questionable, their reluctance might influence collectors to investigate new proposals more thoroughly, and this, in turn, might discourage widespread acceptance of weakly proposed species. Lack of acceptance might then dissuade the more prolific species splitters from further endeavors, or at least slow the rate at which they describe new species.

The collector is the ultimate loser in the quagmire of new species. Some of us become very frustrated as names change and new species are introduced that are difficult to distinguish from existing ones. Does that extra bump, or the lack of a row of dots, or some other morphological distinction that is portrayed as the crucial difference really make a new species, or is it simply a variation in a local population? Recall the human analogy. This frustration eventually grows into aggravation, and, in the worst scenario, disenchantment with our hobby because now, instead of relaxation, it only breeds irritation.

There are those of us who, in trying to collect an entire family, find that keeping up with the "latest species" requires a substantial investment, and ultimately we realize that only the very wealthy collectors will be able to exhibit a complete display. Even those of us who do not usually quibble with price find ourselves wondering just how different this new specimen is from similar shells already in our cabinets. Worse yet, if the new species is later determined to be a population variant of an existing species, and somewhat more common than previously thought, we may feel cheated by the dealer who sold us the shell originally, even though the dealer sold us the shell in good faith, and we willingly bought it. Fairly or not, we frequently feel that dealers should be more aware of these problems, and we hold them ultimately responsible, rather than the original author of the "new species." There is no question that these kinds of experiences can take much of the joy out of collecting.

One way to avoid these problems is to collect only the species that have been firmly established, or restrict our collections to self-collected specimens. Indeed, many of us have taken this route, and are not much affected by the "new" discoveries. Our problem with the species concept revolves around relationships among the specimens in our collections. Others among us still seek to expand our collections, and try to amass as complete and comprehensive a collection as possible. We are the collectors who are most likely to be affected by the proliferation of new species.

A simple solution is to let the job of molluscan taxonomy rest



where it should, with the biologists. Even though the results are slow in coming (there are too few workers with too large a workload), at least the results will be worth waiting for, since they will be more reliable and less likely to change. A second solution is simply for us collectors to get "back to basics," and educate ourselves, not only in the shape and color of shells, but also the biology of the wonderful organisms that produce them. We are not dealing with static things here, but living, changing, adapting organisms, and the more that we know about the mollusks themselves, the less likely we are to be misled by all the new species, and the more enjoyment we will derive from our pursuit of collecting shells.

George Karleskint is Assistant Professor of Biology at Meramec Community College in St. Louis. Currently working on his PhD in Biology, he is also a well-known shell dealer (World Wide Sea Shells).

## NOTES ON NOMENCLATURE AND LABELING

Walter Sage

American Museum of Natural History

The major difficulty many of us have in constructing our shell show displays is labeling. Good, accurate labels in correct form enhance even a mediocre exhibit while nothing can detract so quickly from an otherwise outstanding exhibit as poor labels.

Walter Sage has judged many shell shows himself and has conferred with malacologists Dr. R. Tucker Abbott, and Dr. William K. Emerson (also of the AMNH) before offering the following advice and enlightenment:

Zoological nomenclature dates from Linnaeus's 1758 *Systema Naturae*, 10th Edition, and is based on one name for a genus and another for the species. (This is binominal nomenclature: a combination of two names, a binomen. Note the difference between binominal and binomial, as in the Binomial Theorem: two numbers.)

So that these scientific names are easily recognizable, General Recommendation 2 of the ICZN Code (the International Code of Zoological Nomenclature, 1985 Revision, hereafter cited as CODE) states, "the scientific names for taxa of the genus- and species-groups should be printed in a typeface different from that used in the text. *Italics* are usual. When typing or hand writing, customarily use underlining instead of italics because italics are not available (and because underlining is a printer's instruction to set words in italic type). Computer-generated labels are acceptable, but we must be careful that the printing for scientific names is different from the rest of the data on the label. All scientific names should be underlined. Each scientific name should be treated as a separate entity, and should be underlined separately. The subgenus is considered a "genus-group" and should be underlined just like the genus, as well as being placed in parentheses.

### INCORRECT

*Scaphella* (Volutiformis) aguayoi (Clench, 1940)

*Scaphella* (Volutiformis) aguayoi (Clench, 1940)

*Scaphella* (Volutiformis) aguayoi (Clench, 1940)

*Scaphella* (Volutiformis) aguayoi (Clench, 1940)

### CORRECT

*Scaphella* (Volutiformis) aguayoi (Clench, 1940)

*Scaphella* (Volutiformis) aguayoi (Clench, 1940)

Use and placement of the comma in the citation of a scientific name can be confusing, so again we quote the CODE, Recommendation 22A(2): "In citing the date of publication of a name, an author should interpose a comma between the name of the author and the date." For example, *Conus marmoreus* Linnaeus, 1758.

It is a more complicated citation when author and date are used, but this is NOT mandatory. What is important is consistency — if you are citing author and date for each species included in your display, then be sure to have the labels uniformly correct. Misspellings and typographical errors detract materially from an exhibit.

Another point to mention is the use of parentheses to indicate that there has been a change in generic placement of a species-level name. The CODE, Article 51 (c), states, "If a species-group name is combined with a generic name other than the original one, the name of the author of the species-group name, if cited, is to be enclosed in parentheses." Recommendation 22B extends this practice to include the date, "If the original date of publication is cited for a species-group name in a changed combination, it should be enclosed within the same parentheses as the name of the original author." For example, in 1804, Lamarck described the Junonia as *Voluta junonia*; it has more recently been assigned to the genus group *Scaphella*:

### INCORRECT

*Scaphella junonia* Lamarck, 1804

*Scaphella junonia* (Lamarck) 1804

### CORRECT

*Scaphella junonia* (Lamarck, 1804)

Mere forms and variations have often been given Latin names in the past, and Latin names are quite frequently proposed as new forms (*forma*) today. These names, however, are called "infra-specific," that is, below the level of subspecies, and they are not considered within the official rules of priority or homonymy. Thus, one may identify a red color phase of a shell as:

*Scaphella junonia* (Lamarck, 1804) form (or *forma*) *rubra* Smith, 1970

*Strombus luhuanus* subspecies *decorus* Roding, 1798 form *ruber* Smith, 1970

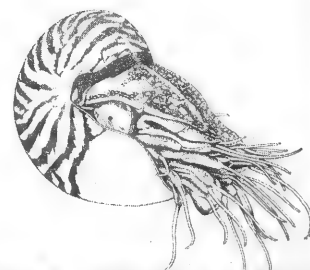
One further note: The CODE, Article 27, forbids the use of apostrophes, hyphens or accent marks of any sort in Latin names, but does permit them in the names of authors such as Müller, Röding and Milne-Edwards.

The January, 1987 issue of **GOLDEN YEARS MAGAZINE** has published an article by **R. Tucker Abbott** on "The Spell of the Shell." It features interesting information about mollusks and shell collecting, illustrated with Dr. Abbott's beautiful color photos of Caribbean shells.

## THE NAUTILUS GETS A FACELIFT

**THE NAUTILUS**, that venerable publication devoted to "giving information of vital interest to the student of Mollusca," has completed its 100th volume. Two events commemorate the centennial: Dr. R. Tucker Abbott, editor for 28 years, has retired, to be replaced by Dr. M. G. Harasewych of the Smithsonian. And the Nautilus has a new cover.

## THE NAUTILUS



## BOARD TALK

From our **Treasurer WALTER SAGE**: Thanks to all of you who have sent in your 1987 membership renewals. This prompt payment will help us prepare an accurate membership list for presentation at the June convention. Your personal notes are most appreciated — friendly words help make my task less routine. Please note the correct New Jersey ZIP code — send correspondence regarding payment of dues and requests for the COA lapel pin to Walter Sage, COA Treasurer, P.O. Box 8105, Saddle Brook, NJ 07662. Any other membership inquiries, including new applications, should be sent to Phyllis and Bernard Pipher, COA Membership Chairpersons, 1116 "N" Street, Tekamah, NE 68061.

## Corrections to 1986 COA Membership List:

London Associates Shells  
1137 Prospect Street  
La Jolla, CA 92037

Ralph Moore (listed twice)  
delete 1214 Middle Gulf Drive

Steven J. Long  
1701 Hyland Street  
Bayside, CA 95524

Jean M. Ryser  
1701 NE 5th Street #6  
Ft. Lauderdale, FL 33317

Eric & Eileen Moore  
P.O. Box 6606  
Orange, CA 92666

From our **Publications Chairman R. TUCKER ABBOTT**: Let all our members welcome our new editor, Lynn Scheu, and wish her the same success that blessed Charlie Glass during his faithful years as the editor of the **Bulletin**. Lynn needs our help, and I urge you to write up your latest shell-collecting experiences and send them to her for editing. While you're at it, how about some suggestions for a new snappy name for our **Bulletin**? Do you like "Shell World," "The Conchologist," "Shells," "Shell Bulletin" or what? Drop me a line — R. Tucker Abbott, COA Publications Chairman, P.O. Box 2255, Melbourne, FL 32902.

From our **Membership Co-Chairmen PHYLLIS and BERNARD PIPHER**: In the interest of economy, only new members will be sent membership cards. Back issues of the **COA Bulletin** can be obtained for \$2.50 per issue. Write: The Piphers, COA Membership Chairpersons, 116 "N" Street, Tekamah, NE 68061.

From our **Vice President DONALD YOUNG**: The COA Local Club Representative project was conceived at the 1985 convention in Philadelphia and implemented last year. It involves the selection of local shell club members as Local Club Representatives to act as liaison between the individual clubs and the COA. Each representative keeps his club informed on all the activities, projects and convention updates of the COA, and in turn sends news about his club's activities to the editor of the **COA Bulletin**.

In addition, the COA Vice President welcomes ideas and suggestions from club representatives on how the COA might best serve their clubs. We believe this two-way link will be mutually beneficial, in both the spawning and the implementation of new ideas and projects and in dissemination of information around the country.

Is your club participating? It's still not too late. . . the club's president simply writes to the COA Vice President designating its representative, his address and telephone number. We recommend that the selected club member be a current COA member. Information sheets will be sent to all participating clubs. We hope that not one COA member club will miss out on the valuable benefits which participation in the Local Club Representative project entitles them to. Further inquiries may be made to Donald J. Young, COA Vice President, 11690 Parkview Lane, Seminole, FL 33542.

We are pleased to list the following clubs as COA members:

Astronaut Trail Shell Club  
Boston Malacological Club  
Broward Shell Club  
Buffalo Conchological Society  
Central Florida Shell Club

Gloria Scarboro  
Janet Thompson  
Richard Sedlak  
Diana Wandycz  
Lucille Green

Chicago Shell Club  
Crown Point Shell Club  
Georgia Shell Club  
Greater Miami Shell Club  
Gulf Coast Shell Club  
Houston Conchology Society  
Indianapolis Shell Club  
Jacksonville Shell Club  
Long Beach Shell Club  
Long Island Shell Club  
Louisville Conchological Society  
Marco Island Shell Club  
National Capital Shell Club  
New York Shell Club  
North Carolina Shell Club  
North Texas Conchological Society  
Palm Beach County Shell Club  
Sanibel-Captiva Shell Club  
Sarasota Shell Club  
South Carolina Shell Club  
Southwest Florida Conchologist Society  
St. Petersburg Shell Club  
Suncoast Conchologists  
Treasure Coast Shell Club  
Wilmington Shell Club

Duane Thenhaus  
Carol Bodine  
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Bob Granda  
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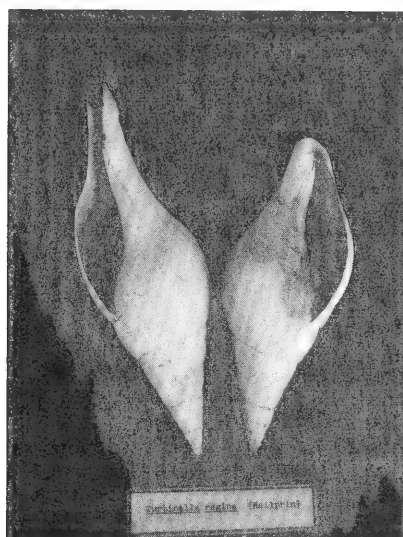


Photo by Dr. Harry Lee

## A FOSSIL SHELL OF THE SHOW?

COA Trophy Chairman Don Dan reports that a fossil has won Shell of the Show for the first time ever, at not one but two Florida shows. Bill Boger won Shell of the Show at Astronaut Trail Shell Show in January, and Vi and Charles Hertweck won at Fort Myers in February. And the fabulous fossils? They're the same species! A Chank Shell, *Turbinella regina*, pictured here. This impressive pair, dextral and sinistral, belongs to Violet and Charles Hertweck.

We've just received word from Sanibel that COA member **Roberta Cranmer** of Louisville, Kentucky has won the COA Trophy at Sanibel for her worldwide exhibit, "Molluscan Treasures from the World's Oceans."

**Dr. Alfred Rumeau** of Jacksonville, Florida has won the COA Trophy at Astronaut Trail Shell Show for his exhibit, "Tree and Land Snails of the World."

COA member **Rick Gibson** of Temple Terrace, Florida has won the COA Trophy at the St. Petersburg Shell Show for his one family exhibit, "Volutes in Depth."

Winner of the COA Trophy at the Greater Miami Shell Show was Central Florida President and COA member **David Green** for his exhibit, "Seashells of the World." More in the June Bulletin.

## SHELLS IN PRINT

by Richard L. Goldberg

Since I started this column a number of years ago, my book reviews have been limited to scientific and identification literature. I recently was privileged to read a murder mystery based on, of all things, shells! It's Agatha Christie in conchology! **MURDER ON THE MATANIKO BRIDGE** by Ann M. Kengalu (published by Dellaponte, P.O. Box 458, Honiara, Solomon Islands), takes place in the Solomon Islands. Catherine MacDonald has left her home in New Zealand to investigate the incidents surrounding the unsolved murder of her brother in the Solomons. A totally different culture confronts our heroine as she encounters danger, mystery and romance during her search for clues to the murder. So, you ask, what do shells have to do with the plot? That would give away the mystery! Ms. Kengalu has lived for many years in the Solomon Islands, and she has captured the flavor of the people and the environment, ably describing the sites, sounds and smells of this exotic chain of islands. I was able to visualize what it would be like to travel to these islands, while totally enjoying the mystery. A few typographical errors have slipped into print, but all are obvious and do not hinder this fast-reading novel. At this writing I do not have a price on the book, but you can write the publisher for details. I think you'll enjoy this one.

To gain better insight into a hobby, one must look back into the history surrounding it. This definitely holds true for conchology. Certain information will help us have a better understanding of why our hobby has evolved the way it did. Who named the shells we collect? What has happened to the major collections of the past? What major literature shaped today's nomenclature? Where and what were the major expeditions of the past? These and many other questions can be answered in **A HISTORY OF SHELL COLLECTING** by S. Peter Dance (E. J. Brill, P.O. Box 9000, 2300 PA, Leiden, The Netherlands). This is an updated version of the first edition which was first published in 1966 (titled **SHELL COLLECTING, AN ILLUSTRATED HISTORY**). The 265 page hardcover volume is loaded with useful and interesting information. There have been only a few revisions and additions to the first edition, though the format and layout of the book have changed considerably. The book contains 32 black and white plates, one color plate and numerous text illustrations. This is the most comprehensive history on conchology published to date. You will find it an indispensable reference worthy of space in your conchological library.

**THE AMERICAN MALACOLOGICAL UNION** announces the publication of **PROCEEDINGS OF THE SECOND INTERNATIONAL CORBICULA SYMPOSIUM** now available from AMU Corresponding Secretary, Paula Mikkelsen, Harbor Branch Oceanographic Institution, 5600 Old Dixie Highway, Ft. Pierce, FL 33450-9719. \$20.00 AMU members, \$28.00 non-members.

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## BOOK REVIEW

**REGISTER OF AMERICAN MALACOLOGISTS** — A National Register of Professional and Amateur Malacologists and Private Shell Collectors. 1987. Second edition, Hardcover, 168 pp. \$21.00. American Malacologists, P.O. Box 1192, Burlington, MA 01803.

Over 2,600 persons actively interested in mollusks are included in this new edition of the only "who's who" among American Conchologists. A dozen years have passed since the last issue of *American Malacologists*. As a result many addresses have changed and there are now 1,600 biographies, one third of them new listings. With the passing of time, it became necessary to create a special historical section for the 130 recently deceased listees. In addition, the new Register now includes the names and addresses of all members of the American Malacological Union, the Conchologists of America and the Society of Western Malacologists.

The register serves as an historical record of our field of scientific investigations, as well as an updated tool of communication for amateur shell collectors. The American Reference Books Annual has said that this book is a "landmark that brings a sense of responsibility to this field. It is not only very useful, but also leads its readers on pleasurable excursions into the lives and activities of other workers in the field."

For each biographee there is given: date and place of birth (excluding a few reticent ladies); occupation; educational record; professional career; malacological memberships, writings, research or interests; marital status; current home and office address; and optional listing of phone numbers.

The well-bound book is 8½ × 11 inches with the easily located biographies set in two columns. New to the Register is a history of shell clubs in America from 1866 to 1955. At the end of the book is a reproduction of the four-page application used in the survey and available for those wishing to be listed in future editions. The reference is prefaced with a few apt adages including Thomas Carlyle's 1834 maxim that "History is the essence of innumerable biographies."

## BOOK REVIEW

**SEASHELLS OF NORTH AMERICA** (Revised edition) by R. Tucker Abbott, 1986. 280 pp., illus. Paperback. Golden Press, N.Y. \$7.95.

Like an old shoe, this convenient guide to 850 marine mollusks of North America has been used in comfort by most shell collectors and marine biology classes for nearly twenty years. The thought of a "revised edition," although obviously needed after such a long time, usually sends a chill through our nomenclatorial spines.

Dyed-in-the-wool shellers will be glad to know that the first forty pages of biology, geological history and collecting methods, as well as the thousands of beautiful paintings by George Sandstrom, have largely remained unchanged.

Those who have kept up to date with recent advances in malacology will recognize improvements that twenty years of research have dictated. Old terms like Pelecypoda have been replaced by Bivalvia; our Eastern Bay Scallops are *Argopecten*, no longer *Aequipecten*; *Littorina planaxis* of the Pacific coast is *L. keenae* Rosewater; and the Pacific Geoduck is *Panope abrupta* (Conrad), no longer *P. generosa* — to mention a few of the 133 changes in Dr. Abbott's revision.

Scientific knowledge is not carved in stone; it profits by improvements and necessary change. An updated bibliography and reset index complete this friendly bridge between **Seashells of the World** and the now out-of-print **American Seashells** by the same author.



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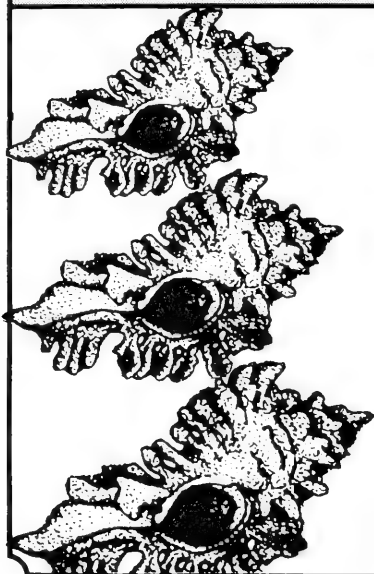
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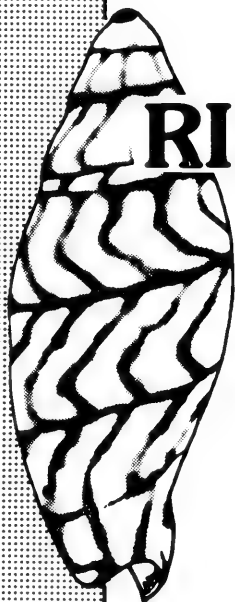
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